

PART 70 SIGNIFICANT SOURCE MODIFICATION OFFICE OF AIR QUALITY

**Dalton Corporation, Warsaw Manufacturing Facility
1900 East Jefferson Street
Warsaw, Indiana 46581-1388**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this approval.

This approval is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Source Modification No.: 085-14027-00003	
Original signed by Paul Dubenetzky Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: February 22, 2002

TABLE OF CONTENTS

A	SOURCE SUMMARY	5
A.1	General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]	
A.2	Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)]	
A.3	Part 70 Permit Applicability [326 IAC 2-7-2]	
B	GENERAL CONSTRUCTION CONDITIONS	7
B.1	Definitions [326 IAC 2-7-1]	
B.2	Effective Date of the Permit [IC13-15-5-3]	
B.3	Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]	
B.4	Significant Source Modification [326 IAC 2-7-10.5(h)]	
C	GENERAL OPERATION CONDITIONS	9
C.1	Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]	
C.2	Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)]	
C.3	Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]	
C.4	Opacity [326 IAC 5-1]	
C.5	Fugitive Dust Emissions [326 IAC 6-4]	
C.6	Operation of Equipment [326 IAC 2-7-6(6)]	
C.7	Compliance Requirements [326 IAC 2-1.1-11]	
C.8	Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]	
C.9	Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]	
C.10	Compliance Response Plan - Failure to Take Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]	
C.11	Emergency Provisions [326 IAC 2-7-16]	
C.12	Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]	
C.13	General Record Keeping Requirements [326 IAC 2-7-5(3)]	
C.14	General Reporting Requirements [326 IAC 2-7-5(3)(C)]	
D.1	FACILITY OPERATION CONDITIONS	16
D.1.1	Particulate Matter(PM) [326 IAC 6-3-2]	
D.1.2	VOC and HAPs Limits [326 IAC 2-2] [326 IAC 8-1-6] [326 IAC 2-4.1-1]	
D.1.3	PM and PM10 Limits [326 IAC 2-2]	
D.1.4	Preventive Maintenance Plan [326 IAC 2-7-5(13)]	
	Compliance Determination Requirements	
D.1.5	Particulate Matter(PM)	
	Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]	
D.1.6	Visible Emissions Notations	
D.1.7	Cartridge Filter Inspections	
D.1.8	Broken or Failed Cartridge Filter Detection	
	Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]	
D.1.9	Record Keeping Requirements	
D.1.10	Reporting Requirements	
D.2	FACILITY OPERATION CONDITIONS (Cupola Charge Handling Operation)	20
D.2.1	Prevention of Significant Deterioration [326 IAC 2-2]	
D.2.2	Particulate Matter(PM) [326 IAC 6-3-2]	
	Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]	
D.2.3	Record Keeping Requirements	
D.2.4	Reporting Requirements	

D.3	FACILITY OPERATION CONDITIONS (Cupola)	22
D.3.1	Prevention of Significant Deterioration [326 IAC 2-2]	
D.3.2	Particulate Matter(PM) [326 IAC 6-3-2]	
D.3.3	Preventive Maintenance Plan [326 IAC 2-7-5(13)]	

Compliance Determination Requirements

- D.3.4 Testing Requirements [326 IAC 2-7-6(1),(6)]
- D.3.5 Emission Controls [326 IAC 9-1]

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

- D.3.6 Visible Emissions Notations
- D.3.7 Temperature Monitoring
- D.3.8 Scrubber Parametric Monitoring
- D.3.9 Scrubber Inspections
- D.3.10 Scrubber Failure
- D.3.11 Baghouse Parametric Monitoring
- D.3.12 Baghouse Inspections
- D.3.13 Broken or Failed Bag Detection

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

- D.3.14 Record Keeping Requirements
- D.3.15 Reporting Requirements

D.4	FACILITY OPERATION CONDITIONS (Pallet Line, Herman 1 and 2 Pouring and Castings Cooling Processes)	27
------------	---------------------------------------------------------------------------------------------------------------------	-----------

- D.4.1 Prevention of Significant Deterioration [326 IAC 2-2]
- D.4.2 Particulate Matter(PM) [326 IAC 6-3-2]

D.5	FACILITY OPERATION CONDITIONS (Pallet Line, Herman 1 and 2 Shakeout and Sand Handling processes. Inclined Shakeout and Sorting system and Waste Sand Transport Process. Herman 3 Pouring, Castings C, Shakeout and Sand Handling)	30
------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------

- D.5.1 Prevention of Significant Deterioration [326 IAC 2-2]
- D.5.2 Particulate Matter(PM) [326 IAC 6-3-2]
- D.5.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

Compliance Determination Requirements

- D.5.4 Testing Requirements [326 IAC 2-7-6(1),(6)]
- D.5.5 Emission Controls [326 IAC 9-1]

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

- D.5.6 Visible Emissions Notations
- D.5.7 Scrubber Parametric Monitoring
- D.5.8 Scrubber Inspections
- D.5.9 Scrubber Failure
- D.5.10 Baghouse Parametric Monitoring
- D.5.11 Baghouse Inspections
- D.5.12 Broken or Failed Bag Detection

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

- D.5.13 Record Keeping Requirements
- D.5.14 Reporting Requirements

D.6	FACILITY OPERATION CONDITIONS (Shot Blasting and Grinding)	36
------------	-----------------------------------------------------------------------------	-----------

- D.6.1 Prevention of Significant Deterioration [326 IAC 2-2]
- D.6.2 Particulate Matter(PM) [326 IAC 6-3-2]
- D.6.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

Compliance Determination Requirements

- D.6.4 Emission Controls [326 IAC 9-1]

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

- D.6.5 Visible Emissions Notations
- D.6.6 Baghouse Parametric Monitoring
- D.6.7 Baghouse Inspections
- D.6.8 Broken or Failed Bag Detection

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

- D.6.9 Record Keeping Requirements
- D.6.10 Reporting Requirements

Certification	40
Quarterly Report (Melted Metal in the Cupola)	41
Quarterly Report (Metal Charged by the Cupola Charge Handling Facility)	42
Quarterly Report (Finished Metal by all Shotblasters)	43
Quarterly Report (Sand Handled by all Sand Handling Systems)	44
Quarterly Report (Sand throughput to the Waste Sand Handling Systems)	45
Quarterly Report (Hot box resin usage for hot box sand mixer #9)	46
Quarterly Report (Hot box catalyst usage for hot box sand mixer #9)	47
Quarterly Report (Core wash usage for wash dip tank #1)	48
Quarterly Report (Release Agent Usage for hot box sand mixer #9)	49
Affidavit	50

SECTION A

SOURCE SUMMARY

This approval is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the emission units contained in conditions A.1 through A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this approval pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates stationary gray iron foundry

Responsible Official:	Mr. Mark Rees, Plant Manager
Source Address:	1900 East Jefferson Street, Warsaw, Indiana, 46581-1388
Mailing Address:	P.O.Box 1388, Warsaw, Indiana, 46581-1388
Phone Number:	219-267-8111
SIC Code:	3321
County Location:	Kosciusko
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program
	Major, under PSD
	Major Source, Section 112 of the Clean Air Act
	1 of the 28 listed source categories (secondary metal production facility)

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source is approved to construct and operate the following emission units and pollution control devices:

- I. A new hot box core making process with a maximum capacity of 18 tons per hour. The process includes the following emission units:
 - (a) Sand Silo, with a maximum capacity of providing 18 tons of sand per hour to hot box sand mixer # 9, utilizing an integral bin vent for particulate matter control during loading.
 - (b) Sand bin, with a maximum capacity of providing 18 tons of sand per hour to hot box sand mixer # 9, utilizing a cartridge collector for particulate matter control.
 - (c) Hot Box Sand Mixer, identified as #9, with a maximum capacity of 18 tons of sand per hour utilizing resin and catalyst.
 - (d) One (1) 1.5 MMBtu/hr natural gas fired Hot Box Core Machine, identified as #8, with a maximum capacity of 4.5 tons of sand per hour, utilizing a core box cleaner and release agent.
 - (e) Two (2) 1.5 MMBtu/hr natural gas fired Hot Box Core Machines, identified as #9 and #10 with a maximum capacity of 6 tons of sand per hour each, utilizing a core box cleaner and release agent.
 - (f) Hot Box Core Wash Dip Tank, identified as #1, with a maximum capacity of 16.5 tons of sand per hour.
 - (g) Two (2) Natural gas fired Core Ovens, identified as #1 and #2, with a maximum capacity of 4.0 MMBtu/hr of natural gas each.

- II. Two (2) core ovens on the phenolic core making lines #4 and #5:
 - (a) One (1) 2 MMBtu/ hr natural gas fired core oven, identified as Natural Gas Core Oven #8, installed on the phenolic coremaking line #4.
 - (b) One (1) 2 MMBtu/ hr natural gas fired core oven, identified as Natural Gas Core Oven #9, installed on the phenolic coremaking line #5.

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONSTRUCTION CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this approval shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2 and 326 IAC 2-7 shall prevail.

B.2 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

B.3 Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.4 Significant Source Modification [326 IAC 2-7-10.5(h)]

This document shall also become the approval to operate pursuant to 326 IAC 2-7-10.5(h) when, prior to start of operation, the following requirements are met:

- (a) The attached affidavit of construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application. The emissions units covered in the Significant Source Modification approval may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM if constructed as proposed.
- (b) If actual construction of the emissions units differs from the construction proposed in the application, the source may not begin operation until the source modification has been revised pursuant to 326 IAC 2-7-11 or 326 IAC 2-7-12 and an Operation Permit Validation Letter is issued.
- (c) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
- (d) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
- (e) In the event that the Part 70 application is being processed at the same time as this application, the following additional procedures shall be followed for obtaining the right to operate:
 - (1) If the Part 70 draft permit has not gone on public notice, then the change/addition covered by the Significant Source Modification will be included in the Part 70 draft.
 - (2) If the Part 70 permit has gone through final EPA proposal and would be issued ahead of the Significant Source Modification, the Significant Source Modification will go through a concurrent 45 day EPA review. Then the Significant Source Modification will be incorporated into the final Part 70 permit at the time of issuance.

- (3) If the Part 70 permit has gone through public notice, but has not gone through final EPA review and would be issued after the Significant Source Modification is issued, then the Modification would be added to the proposed Part 70 permit, and the Title V permit will issued after EPA review.

SECTION C GENERAL OPERATION CONDITIONS

C.1 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

- (a) Where specifically designated by this approval or required by an applicable requirement, any application form, report, or compliance certification submitted under this approval shall contain certification by a responsible official of truth, accuracy, and completeness. This certification, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, on the attached Certification Form, with each submittal.
- (c) A responsible official is defined at 326 IAC 2-7-1(34).

C.2 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this approval, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) within ninety (90) days after issuance of this approval, including the following information on each facility:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If due to circumstances beyond its control, the PMP cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The PMP and the PMP extension notification do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMP's shall be submitted to IDEM, OAQ, upon request and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

- (a) The Permittee must comply with the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this approval.

- (b) Any application requesting an amendment or modification of this approval shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request [326 IAC 2-7-11(c)(3)].

C.4 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitation), opacity shall meet the following, unless otherwise stated in this approval:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided in this approval, all air pollution control equipment listed in this approval and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

Compliance Requirements [326 IAC 2-1.1-11]

C.7 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.8 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

If required by Section D, all monitoring and record keeping requirements shall be implemented when operation begins. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.

C.9 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

- (a) Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (b) Whenever a condition in this permit requires the measurement of a flow rate, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (c) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.10 Compliance Response Plan - Failure to Take Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]

- (a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:
 - (1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.
 - (2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.
- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:
 - (1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or
 - (2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.

- (3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, the IDEM, OAQ shall be promptly notified of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.
 - (4) Failure to take reasonable response steps shall constitute a violation of the permit.
- (c) The Permittee is not required to take any further response steps for any of the following reasons:
 - (1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied.
 - (3) An automatic measurement was taken when the process was not operating.
 - (4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.
- (d) When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section B-Deviations from Permit Requirements and Conditions.
- (e) The Permittee shall record all instances when response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.
- (f) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

C.11 Emergency Provisions [326 IAC 2-7-16]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided in 326 IAC 2-7-16.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
 - (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;

- (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or

Telephone Number: 317-233-5674 (ask for Compliance Section)

Facsimile Number: 317-233-5967

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(10) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

- (g) Operations may continue during an emergency only if the following conditions are met:
- (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
 - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
 - (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
 - (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value.

Any operation shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

**C.12 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5]
[326 IAC 2-7-6]**

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.13 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

- (a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.14 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

- (a) The reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- I. A new hot box core making process with a maximum capacity of 18 tons per hour. The process includes the following emission units:
 - (a) Sand Silo, with a maximum capacity of providing 18 ton of sand per hour to hot box sand mixer # 9, utilizing an integral bin vent for particulate matter control during loading.
 - (b) Sand bin, with a maximum capacity of providing 18 ton of sand per hour to hot box sand mixer # 9, utilizing a cartridge collector for particulate matter control.
 - (c) Hot Box Sand Mixer, identified as #9, with a maximum capacity of 18 tons of sand per hour utilizing resin and catalyst.
 - (d) One (1) 1.5 MMBtu/hr natural gas fired Hot Box Core Machine, identified as #8, with a maximum capacity of 4.5 tons of sand per hour, utilizing a core box cleaner and release agent.
 - (e) Two (2) 1.5 MMBtu/hr natural gas fired Hot Box Core Machines, identified as #9 and #10 with a maximum capacity of 6 tons of sand per hour each, utilizing a core box cleaner and release agent.
 - (f) Hot Box Core Wash Dip Tank, identified as #1, with a maximum capacity of 16.5 tons of sand per hour.
 - (g) Two (2) Natural gas fired Core Ovens, identified as #1 and #2, with a maximum capacity of 4.0 MMBtu/hr of natural gas each.
- II. Two (2) core ovens on the phenolic core making lines #4 and #5:
 - (a) One (1) 2 MMBtu/ hr Natural gas fired core oven, identified as Natural Gas Core Oven #8, installed on the phenolic coremaking line #4.
 - (b) One (1) 2 MMBtu/ hr Natural gas fired core oven, identified as Natural Gas Core Oven #9, installed on the phenolic coremaking line #5.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from the sand silo with integral bin vent is 28.43 pounds per hour when operating at a process weight rate of 18 tons per hour. The pounds per hour limitation was calculated using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

- (b) Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from the sand bin is 28.43 pounds per hour when operating at a process weight rate of 18 tons per hour. The pounds per hour limitation was calculated using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.1.2 VOC and HAPs Limits [326 IAC 2-2] [326 IAC 8-1-6] [326 IAC 2-4.1-1]

In order to render the requirements of 326 IAC 8-1-6 (BACT), 326 IAC 2-4.1-1 (New Source Toxics Control), and 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

- (a) The resin input to the hot box sand mixer #9 of the new hot box core making process shall be limited to 72,783.76 gallons per twelve (12) consecutive month period rolled on a monthly basis and VOC content of the resin shall not exceed 3.5 percent by weight.
- (b) The catalyst input to the hot box sand mixer #9 of the new hot box core making process shall be limited to 14,716.51 gallons per twelve (12) consecutive month period rolled on a monthly basis and the VOC content of the catalyst shall not exceed 7.7 percent by weight.
- (c) The wash input to the core wash dip tank #1 of the new hot box core making process shall be limited to 39,207.57 gallons per twelve (12) consecutive month period rolled on a monthly basis and the VOC content of the core wash shall not exceed 2.0 percent by weight.
- (d) The release agent usage for the new hot box process line shall be limited to 6,828.31 gallons per twelve (12) consecutive month period rolled on a monthly basis and the VOC content of the release agent shall not exceed 1.2 percent by weight.
- (e) In conjunction with the above limits and emission ratio of 2.1215 pounds per ton of sand, the VOC PTE from the hot box sand mixer #9, core machines #8, #9, #10 and the core wash dip tank shall be limited to less than 25 ton per year.

Compliance with the above conditions will also make the requirements of 326 IAC 2-2 and 40 CFR 52.21 (PSD) not apply.

D.1.3 PM and PM10 Limits [326 IAC 2-2]

In order to render the requirements 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

- (a) The sand input to the sand silo and the sand bin associated with the hotbox mixer #9 shall not exceed a rate of 18 tons per hour and 0.32 pounds of PM per ton of sand handled.

This limit is equivalent to limited PTE PM of less than 24.50 tons per year. Thus the requirements of 326 IAC 2-2 are not applicable.

- (b) The sand input to the sand silo and the sand bin associated with the hotbox mixer #9 shall not exceed a rate of 18 tons per hour and 0.18 pounds of PM10 per ton of sand handled.

This limit is equivalent to limited PTE PM10 of less than 14.50 tons per year. Thus the requirements of 326 IAC 2-2 are not applicable.

Compliance with the above conditions will also make the requirements of 326 IAC 2-2 and 40 CFR 52.21 (PSD) not apply.

D.1.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the sand bin's cartridge collector.

Compliance Determination Requirements

D.1.5 Particulate Matter (PM)

In order to comply with D.1.1 and D.1.3 (a) and (b) the cartridge collector and the silo's integrated bin vent for PM control shall be in operation at all times that the sand silo loading and the sand handling systems are in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.6 Visible Emissions Notations

- (a) Visible emission notations of the cartridge collector and the silo's integrated bin vent stack exhaust shall be performed once per shift during normal daylight operations when exhausting to the atmosphere during loading. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

D.1.7 Cartridge Filter Inspections

An inspection shall be performed each calendar quarter on the cartridge filter. All defective filters shall be replaced.

D.1.8 Broken or Failed Cartridge Filter Detection

In the event that filter failure of the cartridge filter has been observed, the failed unit and the associated process will be shut down immediately until the failed unit has been repaired or

replaced. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.9 Record Keeping Requirements

- (a) To document compliance with Condition D.1.6, the Permittee shall maintain records of visible emission notations of the cartridge collector and the silo's integrated bin vent stack exhaust once per shift during normal daylight operations when exhausting to the atmosphere during loading.
- (b) To document compliance with conditions D.1.2 (a), (b), (c) and (d) the Permittee shall maintain records of usage of the hot box resin, the hot box catalyst, hot box core wash and release agent used in the new hot box core making process.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.10 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.2 (a), (b), (c) and (d) shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or the equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

Cupola charge handling operations, constructed prior to 1977, with a nominal charge rate of 53.45 tons of solid metal, coke and limestone per hour, with emissions uncontrolled

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Prevention of Significant Deterioration [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) and 40 CFR 52.21 not applicable, the following conditions shall apply:

- (a) The PM emissions from the charge handling operation shall be limited to 0.6 pounds per ton of metal charged.
- (b) The PM₁₀ emissions from the charge handling operation shall be limited to 0.36 pounds per ton of metal charged.
- (c) The lead emissions from the charge handling operation shall be limited to 0.002 pounds per ton of metal charged.
- (d) The metal charged shall be limited to 199,194 tons per twelve (12) consecutive month period.

Therefore, the requirements of 326 IAC 2-2 and 40 CFR 52.21 shall not apply to the new hot box core making process.

D.2.2 Particulate Matter Emissions

Pursuant to 326 IAC 6-3-2 (Process Operations), the total particulate matter (PM) from the charge handling process shall not exceed 45.20 pounds per hour when operating at a process weight rate of 53.45 tons of material charged per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate greater than 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 55 P^{0.11} - 40 \quad \text{where} \quad \begin{array}{l} E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour} \end{array}$$

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.3 Record Keeping Requirements

- (a) To document compliance with condition D.2.1, the permittee shall maintain records of the metal charged each month.
- (b) All records shall be maintained in accordance with section C - General Record Keeping Requirements of this permit.

D.2.4 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.2.1 (d) shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or the equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

One (1) cupola constructed prior to 1977, with a nominal rate of 48.5 tons of metal melted per hour and a maximum heat input capacity from coke of 69.95 million Btu per hour, with emissions controlled by wet scrubber A and two natural gas-fired afterburners and exhausting to stack A, and also with charge door emissions controlled by baghouse A;

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Prevention of Significant Deterioration [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) and 40 CFR 52.21 not applicable, the following conditions shall apply:

- (a) The PM emissions from the cupola shall be limited to 0.821 pounds per ton metal.
- (b) The PM₁₀ emissions from the cupola shall be limited to 0.738 pounds per ton metal.
- (c) The SO₂ emissions from the cupola shall be limited to 1.25 pounds per ton metal.
- (d) The NO_x emissions from the cupola shall be limited to 0.1 pounds per ton metal.
- (e) The VOC emissions from the cupola shall be limited to 0.009 pounds per ton metal.
- (f) The CO emissions from the cupola shall be limited to 7.250 pounds per ton metal.
- (g) The Lead emissions from the cupola shall be limited to 0.002 pounds per ton metal.
- (h) The amount of metal melted in the Cupola shall be limited to 187,919 tons per twelve (12) consecutive month period.

Therefore, the requirements of 326 IAC 2-2 and 40 CFR 52.21 shall not apply to the new hot box core making process.

D.3.2 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Process Operations), the total particulate matter (PM) from scrubber controlling the cupola and the baghouse controlling the charge door emissions shall not exceed 44.3 pounds per hour when operating at a process weight rate of 48.5 tons of metal melted per hour. Note: This limitation is for both the baghouse and the scrubber combined.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate greater than 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 55 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

D.3.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the cupola, the cupola charge door, the baghouse, wet scrubber and the two afterburners.

Compliance Determination Requirements

D.3.4 Testing Requirements [326 IAC 2-7-6(1),(6)]

Within one (1) year after startup of the new hot box core making process, the Permittee shall perform PM, PM10 and CO testing on the baghouse and the wet scrubber controlling the cupola using methods as approved by the Commissioner, in order to demonstrate compliance with condition D.3.1. This test shall be repeated at least once every two and a half (2.5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance. Testing shall be conducted in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM10.

D.3.5 Emission Controls [326 IAC 9-1]

- (a) In order to comply with Conditions D.3.1 and D.3.2, the wet scrubber and baghouse for PM control shall be in operation and control emissions from the cupola at all times that the cupola is in operation and during startup of the cupola.
- (b) Pursuant to 326 IAC 9-1, two afterburners shall be in operation for CO control from the cupola at all times that the cupola is in operation and during startup of the cupola.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.6 Visible Emissions Notations

- (a) Visible emission notations of the wet scrubber and baghouse stack exhausts and of the charge door emissions shall be performed once per shift during normal daylight operations when the cupola is in operation and exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

D.3.7 Temperature Monitoring

The Permittee shall continuously record the operating temperature of the upper stack when the cupola is in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the upper stack temperatures shall be maintained at a minimum of 1400 degrees F with an afterburner ramp-up time of 30 minutes or the length of time the cupola was off blast, or a minimum temperature established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the temperature is below the above mentioned minimum for any one reading.

D.3.8 Scrubber Parametric Monitoring

The Permittee shall record the total static pressure drop and flow rate of the scrubber used in conjunction with the cupola, at least once per shift when the cupola is in operation when venting to the atmosphere. When for any one reading, the pressure drop across the wet scrubber is below a minimum of 34 inches of water or a minimum established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Failure to Take Response Steps. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the flow rate shall be maintained at a minimum of 225 gallons per minute or a minimum flow rate established during the latest stack test. A pressure reading or flow rate that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

The instrument used for determining the pressure and flow rate shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.

D.3.9 Scrubber Inspections

An inspection shall be performed each calendar quarter of the scrubber controlling the cupola. All defective scrubber parts shall be replaced.

D.3.10 Scrubber Failure

In the event that scrubber failure has been observed:

- (a) The affected process will be shut down immediately until the failed unit has been replaced.
- (b) Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion.

D.3.11 Baghouse Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse controlling the charge door emissions, at least once per shift when the associated process is in operation when venting to the atmosphere. When for any one reading, the pressure drop across the baghouses is outside the range of 4.0 and 10.0 or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Failure to Take Response Steps. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure

Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.3.12 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the cupola charge door when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

D.3.13 Broken or Failed Bag Detection

In the event that bag failure has been observed.

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.14 Record Keeping Requirements

- (a) To document compliance with condition D.3.1 (h), the permittee shall maintain records of the metal melted in the cupola each month.
- (b) To document compliance with Condition D.3.6, the Permittee shall maintain records of visible emission notations of the baghouse and wet scrubber stack exhausts once per shift during normal daylight hours when exhausting to the atmosphere during cupola operation.
- (c) To document compliance with Condition D.3.7, the Permittee shall maintain records of the temperature of the upper stack of the cupola continuously.
- (d) To document compliance with Condition D.3.8, the Permittee shall maintain records of the pressure drop and flow rate readings of the scrubber once per shift when the cupola is in operation.
- (e) To document compliance with Condition D.3.10, the Permittee shall maintain records of the inlet and outlet differential static pressure once per shift during normal operation.
- (f) To document compliance with Conditions D.3.9 and D.3.12, the Permittee shall maintain records of the results of the inspections required under Conditions D.3.9 and D.3.12 and the number and type of any parts replaced.

- (g) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.15 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.3.1 (h) shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or the equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (1) One (1) Pallet Line pouring process, constructed prior to 1977, with a maximum capacity of 16.5 tons of metal per hour and 153 tons of core and molding sand per hour, with emissions uncontrolled;
- (2) One (1) Pallet Line castings cooling process, constructed prior to 1977, with a maximum capacity of 16.5 tons of metal per hour and 153 tons of core and molding sand per hour, with emissions uncontrolled;
- (3) One (1) Herman 1 pouring process, constructed prior to 1977, with a maximum capacity of 30 tons of metal per hour and 155 tons of core and molding sand per hour, with emissions uncontrolled;
- (4) One (1) Herman 1 castings cooling process, constructed prior to 1977, with a maximum capacity of 30 tons of metal per hour and 155 tons of core and molding sand per hour, with emissions uncontrolled;
- (5) One (1) Herman 2 pouring process, constructed prior to 1977, with a maximum capacity of 37 tons of metal per hour and 166 tons of core and molding sand per hour, with emissions uncontrolled;
- (6) One (1) Herman 2 castings cooling process, constructed prior to 1977, with a maximum capacity of 37 tons of metal per hour and 166 tons of core and molding sand per hour, with emissions uncontrolled;
- (7) One (1) Herman 3 pouring process, constructed prior to 1977 and modification permitted in 1991, with a maximum capacity of 28 tons of metal per hour and 165 tons of core and molding sand per hour, with emissions uncontrolled;
- (8) One (1) Herman 3 castings cooling process, constructed prior to 1977 and modification permitted in 1991, with a maximum capacity of 28 tons of metal per hour and 165 tons of core and molding sand per hour, with emissions uncontrolled;

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Prevention of Significant Deterioration [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) and 40 CFR 52.21 not applicable, the following conditions shall apply:

- (a) The PM emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 pouring processes shall be limited to 0.118 pounds per ton metal each.
- (b) The PM 10 emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 pouring processes shall be limited to 0.052 pounds per ton metal each.
- (c) The SO₂ emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 pouring processes shall be limited to 0.020 pounds per ton metal each.

- (d) The NO_x emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 pouring processes shall be limited to 0.010 pounds per ton metal each.
- (e) The VOC emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 pouring processes shall be limited to 0.163 pounds per ton metal each.
- (f) The Lead emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 pouring processes shall be limited to 0.016 pounds per ton metal each.
- (g) The PM emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 cooling processes shall be limited to 0.288 pounds per ton metal each.
- (h) The PM₁₀ emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 cooling processes shall be limited to 0.196 pounds per ton metal each.
- (i) The VOC emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 cooling processes shall be limited to 0.687 pounds per ton metal each.

Therefore, the requirements of 326 IAC 2-2 and 40 CFR 52.21 shall not apply to the new hot box core making process

D.4.2 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Process Operations), the following conditions shall apply:

- (a) The particulate matter (PM) from the Pallet Line pouring/casting operation shall not exceed 56.7 pounds per hour when operating at a process weight rate of 170 tons of sand and metal per hour.
- (b) The particulate matter (PM) from the Pallet Line castings cooling operation shall not exceed 56.7 pounds per hour when operating at a process weight rate of 170 tons of sand and metal per hour.
- (c) The particulate matter (PM) from the Herman 1 pouring/casting operation shall not exceed 57.7 pounds per hour when operating at a process weight rate of 185 tons of sand and metal per hour.
- (d) The particulate matter (PM) from the Herman 1 castings cooling operation shall not exceed 57.7 pounds per hour when operating at a process weight rate of 185 tons of sand and metal per hour.
- (e) The particulate matter (PM) from the Herman 2 pouring/casting operation shall not exceed 58.7 pounds per hour when operating at a process weight rate of 203 tons of sand and metal per hour.
- (f) The particulate matter (PM) from the Herman 2 castings cooling operation shall not exceed 58.7 pounds per hour when operating at a process weight rate of 203 tons of sand and metal per hour.
- (g) The particulate matter (PM) from the Herman 3 pouring/casting operation shall not exceed 58.1 pounds per hour when operating at a process weight rate of 193 tons of sand and metal per hour.
- (h) The particulate matter (PM) from the Herman 3 castings cooling shall not exceed 58.1 pounds per hour when operating at a process weight rate of 193 tons of sand and metal

per hour.

The pounds per hour limitations were calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate greater than 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 55 P^{0.11} - 40 \quad \text{where} \quad \begin{array}{l} E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour} \end{array}$$

SECTION D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (1) One (1) Herman 1 and Pallet Line shakeout process, constructed prior to 1977, with a maximum capacity of 46.5 tons of metal per hour and 308 tons of core and molding sand per hour, with emissions controlled by scrubber C and exhausting to stack C;
- (2) One (1) Herman 1 and Pallet Line mold sand handling process, constructed prior to 1977, with a maximum capacity of 300 tons of molding sand per hour, with emissions controlled by scrubbers B and C, and exhausting to stacks B and C respectively;
- (3) One (1) Herman 2 shakeout process, constructed prior to 1977, with a maximum capacity of 37 tons of metal per hour and 166 tons of core and molding sand per hour, with emissions controlled by scrubber B and exhausting to stack B;
- (4) Herman 2 mold sand handling operations constructed prior to 1977, with a maximum capacity of 150 tons of molding sand per hour, with emissions controlled by baghouse F, and baghouse Y and exhausting to stacks F, and Y respectively;
- (5) One (1) Herman 3 shakeout process, constructed prior to 1977 and modification permitted 1991, with a maximum capacity of 28 tons of metal per hour and 165 tons of core and molding sand per hour, with emissions controlled by scrubber E and baghouse W and exhausting to stack E and W respectively;
- (6) Herman 3 molding sand handling operations constructed prior to 1977 and modification permitted in 1991, with maximum capacity of 150 tons of molding sand per hour, with emissions controlled by scrubbers D and E, and baghouse W, and exhausting to stacks D, E and W respectively;
- (7) One (1) waste sand transport process, constructed prior to 1977, with a maximum capacity of 20 tons of waste sand per hour, with emissions controlled by baghouses G and R and exhausting to stack G and R, respectively;

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Prevention of Significant Deterioration [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) and 40 CFR 52.21 not applicable, the following conditions shall apply:

- (a) The PM emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 shakeout and sand handling processes shall be limited to 0.034 pounds per ton metal and sand each.
- (b) The PM₁₀ emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 shakeout and sand handling processes shall be limited to 0.058 pounds per ton metal and sand each.
- (c) The VOC emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 shakeout and sand handling processes shall be limited to 0.115 pounds per ton metal and sand each.
- (d) The lead emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 shakeout and sand handling processes shall be limited to 0.00018 pounds per ton of metal each.

- (e) The PM emissions from the waste sand transport process shall be limited to 0.072 pounds per ton sand each.
- (f) The PM10 emissions from the waste sand transport process shall be limited to 0.011 pounds per ton sand each.
- (g) The amount of core and mold sand handled for the entire source shall be limited to 1,127,516 tons of sand per twelve consecutive month period.
- (h) The amount of sand throughput to the waste sand transport process shall be limited to 112,752 tons of sand per twelve consecutive month period.

Therefore, the requirements of 326 IAC 2-2 and 40 CFR 52.21 shall not apply to the new hot box core making process.

The Herman 3 molding line emission units covered by this condition have been referred to enforcement for allegedly violating PSD. The permit shield covered by 326 IAC 2-7-15 does not apply to this condition and compliance with this condition shall not be deemed compliance with 326 IAC 2-2 or 40 CFR 52.21.

D.5.2 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Process Operations), the following conditions shall apply:

- (a) The particulate matter (PM) from the Herman 1 and Pallet Line shakeout operation shall not exceed 64.91 pounds per hour when operating at a process weight rate of 354.50 tons of sand and metal per hour.
- (b) The particulate matter (PM) from the Herman 1 and Pallet Line mold sand handling operation shall not exceed 63.0 pounds per hour when operating at a process weight rate of 300 tons of molding sand per hour.
- (c) The particulate matter (PM) from the Herman 2 shakeout operation shall not exceed 58.7 pounds per hour when operating at a process weight rate of 203 tons of sand and metal per hour.
- (d) The particulate matter (PM) from the Herman 2 mold sand handling operation shall not exceed 55.4 pounds per hour when operating at a process weight rate of 150 tons of molding sand per hour.
- (e) The particulate matter (PM) from Herman 3 shakeout operation shall not exceed 58.1 pounds per hour when operating at a process weight rate of 193 tons of sand and metal per hour.
- (f) The particulate matter (PM) from Herman 3 mold sand handling operation shall not exceed 55.4 pounds per hour when operating at a process weight rate of 150 tons of molding sand per hour.
- (g) The particulate matter (PM) from the baghouses G and R controlling the waste sand transport operation shall not exceed 30.5 pounds per hour when operating at a process weight rate of 20 tons of waste sand per hour.

Compliance with the limits in D.5.1 will also demonstrate compliance with this condition.

The pounds per hour limitations for (a) and (f) were calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate greater than 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 55 P^{0.11} - 40$$

where E = rate of emission in pounds per hour;
and
P = process weight rate in tons per hour

The pounds per hour limitation for (i) was calculated with the following equation:

Interpolation of the data for the process weight rates less than or equal to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour;
and
P = process weight rate in tons per hour

D.5.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

Compliance Determination Requirements

D.5.4 Testing Requirements [326 IAC 2-7-6(1),(6)]

Within 18 months after startup of the new hot box core making process, the Permittee shall perform PM and PM10 testing on baghouse F, baghouse Y and scrubber B controlling Herman 2 shakeout and sand handling processes using methods as approved by the Commissioner, in order to demonstrate compliance with condition D.5.1. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance. Testing shall be conducted in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM10.

D.5.5 Emission Controls

- (a) The wet scrubber C for PM control shall be in operation and control emissions from the Herman 1 and Pallet Line shakeout and sand handling at all times that either of these processes is in operation.
- (b) The bin vent shall be in place at all times that Herman 1 and Pallet Line sand handling are in operation.
- (c) The wet scrubber B for PM control shall be in operation and control emissions from the Herman 2 shakeout, the Herman 1 and Pallet Line mold sand handling, and the Herman 2 mold sand handling at all times that any of these processes is in operation.
- (d) The baghouses F and Y for PM control shall be in operation and control emissions from the Herman 2 mold sand handling at all times that the Herman 2 mold sand handling is in operation.
- (e) The baghouse W and wet scrubber E for PM control shall be in operation and control emissions from Herman 3 shakeout or mold sand handling at all times that either of these processes is in operation.
- (f) The baghouse W and wet scrubbers D and E for PM control shall be in operation and control emissions from the Herman 3 mold sand handling at all times that the Herman 3 mold sand handling is in operation.
- (g) The baghouses G and R for PM control shall be in operation and control emissions from

the waste sand transport system at all times that the waste sand transport system is in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.5.6 Visible Emissions Notations

- (a) Visible emission notations of the wet scrubbers B, C, D, E and baghouses F, G, R, W and Y stack exhausts shall be performed once per shift during normal daylight operations when exhausting to the atmosphere and when the associated processes are in operation. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

D.5.7 Scrubber Parametric Monitoring

The Permittee shall record the total static pressure drop and flow rate of scrubbers B, C, D and E used in conjunction with the Herman 1, Pallet line, Herman 2 and Herman 3 shakeout processes and Herman 1, Pallet line, Herman 2 and Herman 3 mold sand handling processes, at least once per shift when the associated processes are in operation when venting to the atmosphere. When for any one reading, the pressure drop across the wet scrubber is below a minimum of 8 inches of water or a minimum established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Failure to Take Response Steps. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the flow rate shall be maintained at a minimum of 225 gallons per minute or a minimum flow rate established during the latest stack test. A pressure reading or flow rate that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

The instruments used for determining the pressures and flow rates shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.5.8 Scrubber Inspections

An inspection shall be performed each calendar quarter of the scrubbers B, C, D and E. All defective scrubber parts shall be replaced.

D.5.9 Scrubber Failure

In the event that scrubber failure has been observed:

- (a) The affected process will be shut down immediately until the failed unit has been replaced. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this

permit.

- (b) Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion.

D.5.10 Baghouse Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouses F, G, R, W and Y used in conjunction with the Herman 2 and Herman 3 mold sand handling, Herman 3 shakeout process and the waste sand transport processes, at least once per shift when the associated processes are in operation when venting to the atmosphere. When for any one reading, the pressure drop across the baghouses is outside the range of 4.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Failure to Take Response Steps. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

The instruments used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.5.11 Baghouse Inspections

An inspection shall be performed each calendar quarter of all the bags controlling the Herman 1 and Pallet Line shakeout and mold sand handling emissions, Herman 3 mold sand handling emissions and the waste sand transport emissions. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

D.5.12 Broken or Failed Bag Detection

In the event that bag failure has been observed.

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.5.13 Record Keeping Requirements

- (a) To document compliance with condition D.5.1, the permittee shall maintain records of the sand handled and the waste sand transported each month.

- (b) To document compliance with Condition D.5.6, the Permittee shall maintain records of visible emission notations of the baghouses and wet scrubbers stack exhausts once per shift during normal daylight hours when exhausting to the atmosphere and when the Pallet, Herman 1, Herman 2 and Herman 3 molding lines and waste sand transport are in operation.
- (c) To document compliance with Condition D.5.7, the Permittee shall maintain records of the pressure drop and flow rate readings of the scrubbers once per shift when the Pallet, Herman 1, Herman 2 and Herman 3 molding lines and waste sand transport are in operation.
- (d) To document compliance with Condition D.5.10, the Permittee shall maintain records of the inlet and outlet differential static pressure once per shift during normal operation.
- (e) To document compliance with Conditions D.5.8 and D.5.11, the Permittee shall maintain records of the results of the inspections required and the number and type of any parts replaced.
- (f) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.5.14 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.5.1 (g) and D.5.1 (h) shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or the equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.6

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (1) One (1) SB-1 shot blast machine, constructed prior to 1977, with a maximum capacity of 5.0 tons of iron castings per hour, with emissions controlled by baghouse H;
- (2) One (1) SB-2 shot blast machine, constructed prior to 1977, with a maximum capacity of 5.0 tons of iron castings per hour, with emissions controlled by baghouse H;
- (3) One (1) SB-3 shot blast machine, constructed in 1981, with a maximum capacity of 5.0 tons of iron castings per hour, with emissions controlled by baghouse H;
- (4) One (1) SB-4 shot blast machine, constructed prior to 1977, with a maximum capacity of 5.0 tons of iron castings per hour, with emissions controlled by baghouse H;
- (5) One (1) SB-5 shot blast machine, constructed prior to 1977, with a maximum capacity of 5.0 tons of iron castings per hour, with emissions controlled by baghouse AG;
- (6) One (1) SB-6 shot blast machine, constructed in 1981, with a maximum capacity of 5.0 tons of iron castings per hour, with emissions controlled by baghouse AG;
- (7) One (1) SB-7 Pangborn shot blast machine, constructed in 1978, with a maximum capacity of 6.0 tons of iron castings per hour, with emissions controlled by baghouse K;
- (8) One (1) SB-8 shot blast machine, constructed in 1988, with a maximum capacity of 8.0 tons of iron castings per hour, with emissions controlled by baghouse AG;
- (9) One (1) SB-9 shot blast machine, constructed in 1995, with a maximum capacity of 12.5 tons of iron castings per hour, with emissions controlled by baghouse X;
- (10) Grinders GR1 through GR10, GR25, GR 29 and GR30, each with a maximum capacity of 4.0 tons of iron castings per hour, with emissions controlled by baghouse AD;
- (11) Grinders GR11 through GR14, GR16 and GR17 each with a maximum capacity of 4.0 tons of iron castings per hour, with emissions controlled by baghouse AG;
- (12) Grinders GR19 through GR23 and Grinders 34 through 36 each with a maximum capacity of 4.0 tons of iron castings per hour, with emissions controlled by baghouse K;
- (13) Grinders GR31 through GR33, each with a maximum capacity of 4.0 tons of iron castings per hour, with emissions controlled by baghouse X.

Note: The grinders are considered insignificant activities, but are listed here because some baghouses control a combination of grinders and shotblast machines.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.6.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2] [326 IAC 8-1-6]

In order to render the requirements of 326 IAC 2-2 (PSD) and 40 CFR 52.21 not applicable, the following conditions shall apply:

- (a) The PM emissions from each shot blast machine shall be limited to 0.5066 pounds per ton of metal finished.
- (b) The PM₁₀ emissions from each shot blast machine shall be limited to 0.5066 pounds per ton of metal finished.
- (c) The lead emissions from each shot blast machine shall be limited to 0.0045 pounds per ton of metal finished.
- (d) The total finished metal from the entire foundry shall not exceed 112,752 tons of castings finished per twelve consecutive month period.

Therefore, the requirements of 326 IAC 2-2 (PSD) and 40 CFR 52.21 do not apply to the new hot box core making process.

D.6.2 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Process Operations), the following conditions shall apply:

- (a) The particulate matter (PM) emissions from each of the shot blast machines SB-1, SB-2, SB-4 and SB-5 shall not exceed 12.1 pounds per hour each, when operating at a process weight rate of 5 tons of iron castings per hour each.
- (b) The particulate matter (PM) emissions from each of the shot blast machines SB-3, SB-6, and SB-8 shall not exceed 8.56 pounds per hour each when operating at a process weight rate of 3.0 tons of iron castings per hour each.
- (c) The particulate matter (PM) emissions from shot blast machine SB-7 shall not exceed 13.62 pounds per hour when operating at process weight rate of 6.0 tons of iron castings per hour.
- (d) The particulate matter (PM) emissions from baghouse X controlling the shot blast machine SB-9 shall not exceed 22.3 pounds per hour when operating at a process weight rate of 12.5 tons of iron castings per hour.
- (e) The particulate matter (PM) emissions from each of the grinders shall not exceed 10.4 pounds per hour when operating at a process weight rate of 4.0 tons of iron castings per hour each.

The pounds per hour limitations were calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where} \quad \begin{array}{l} E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour} \end{array}$$

D.6.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the baghouses controlling the shotblasters.

Compliance Determination Requirements

D.6.4 Emission Controls

- (a) The baghouse H for PM control shall be in operation and control emissions from the shotblasters SB-1, SB-2, SB-3, and SB-4 at all times that any one of these shotblasters is in operation.
- (b) The baghouse AG for PM control shall be in operation and control emissions from the shotblasters SB-5, SB-6, and SB-8 at all times that any one of these shotblasters is in operation.
- (c) The baghouse K for PM control shall be in operation and control emissions from the shotblaster SB-7 at all times that the shotblaster SB-7 is in operation.
- (d) The baghouse X for PM control shall be in operation and control emissions from the shotblaster SB-9 at all times that the shotblaster SB-9 is in operation.
- (e) The baghouse AD for PM control shall be in operation and control emissions from grinders GR1 through GR10, GR25, GR 29 and GR30 at all times that grinders GR1

through GR10, GR25, GR 29 and GR30 are in operation.

- (f) The baghouse AG for PM control shall be in operation and control emissions from grinders GR11 through GR14, GR16 and GR17 at all times that grinders GR11 through GR14, GR16 and GR17 are in operation.
- (g) The baghouse K for PM control shall be in operation and control emissions from grinders GR19 through GR23 and Grinders 34 through 36 at all times that grinders GR19 through GR23 and Grinders 34 through 36 are in operation.
- (h) The baghouse X for PM control shall be in operation and control emissions from grinders GR31 through GR33 at all times that grinders GR31 through GR33 are in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.6.5 Visible Emissions Notations

- (a) Visible emission notations of each of the baghouses H, K, AG, and X stack exhausts shall be performed once per shift during normal daylight hours when exhausting to the atmosphere and when the shotblasters are in operation. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

D.6.6 Baghouse Parametric Monitoring

The Permittee shall record the total static pressure drop across baghouses H, K and X used in conjunction with shotblasters, at least once per shift when the associated processes are in operation when venting to the atmosphere. When for any one reading, the pressure drop across the baghouse is outside the normal range of 4.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Failure to Take Response Steps. A pressure reading that is above the above mentioned maximum is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.6.7 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the shotblasters. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

D.6.8 Broken or Failed Bag Detection

In the event that bag failure has been observed.

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.6.9 Record Keeping Requirements

- (a) To document compliance with condition D.6.1 (d), the source shall maintain record of the total metal finished per month.
- (b) To document compliance with Condition D.6.5, the Permittee shall maintain records of visible emission notations of the baghouse H, AG, K, and X stack exhausts once per shift when exhausting to the atmosphere and when the blasters are in operation.
- (c) To document compliance with Condition D.6.6, the Permittee shall maintain records of the inlet and outlet differential static pressure once per shift during normal operation.
- (d) To document compliance with Conditions D.6.7, the Permittee shall maintain records of the results of the inspections required under Condition D.6.7.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit

D.6.10 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.6.1 (d) shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or the equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

**PART 70 SOURCE MODIFICATION
CERTIFICATION**

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.: 085-14027-00003

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- 9 Test Result (specify) _____
- 9 Report (specify) _____
- 9 Notification (specify) _____
- 9 Affidavit (specify) _____
- 9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.: 085-14027-00003
Facility: Cupola
Parameter: Metal Melted
Limit: 187,919 tons/yr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.

Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

A certification is required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.: 085-14027-00003
Facility: Cupola charge handling facility
Parameter: Metal charged
Limit: 199,194 tons/yr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.

Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

A certification is required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.: 085-14027-00003
Facility: All shotblasters
Parameter: Finished Metal
Limit: 112,752 finished metal/yr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.

Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

A certification is required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.: 085-14027-00003
Facility: All sand handling systems
Parameter: Sand handled
Limit: 1,127,516 tons/yr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.

Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

A certification is required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.: 085-14027-00003
Facility: Waste Sand Handling Systems
Parameter: Sand throughput to the Waste Sand Handling Systems
Limit: 112,757 tons/yr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.

Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

A certification is required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.: 085-14027-00003
Facility: Hot Box Sand Mixer #9
Parameter: Hot Box Resin Usage
Limit: 72,783.76 gallons/yr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

A certification is required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.: 085-14027-00003
Facility: Hot Box Sand Mixer #9
Parameter: Hot Box Catalyst Usage
Limit: 14,716.51 gallons/yr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

A certification is required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.: 085-14027-00003
Facility: Core Wash Dip Tank #1
Parameter: Core Wash Usage
Limit: 39,207.57 gallons/yr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

A certification is required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.: 085-14027-00003
Facility: Hot Box Sand Mixer #9
Parameter: Release agent Usage
Limit: 6,828.31 gallons/yr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

A certification is required for this report.

Mail to: Permit Administration & Development Section
Office Of Air Quality
100 North Senate Avenue
P. O. Box 6015
Indianapolis, Indiana 46206-6015

Dalton Corporation, Warsaw Manufacturing Facility
P.O.Box 1388
Warsaw, Indiana, 46581-1388

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of _____ for _____.
(Title) (Company Name)
3. By virtue of my position with _____, I have personal
(Company Name)
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of _____.
(Company Name)
4. I hereby certify that Dalton Corporation, Warsaw Manufacturing Facility, 1900 East Jefferson Street, Warsaw, Indiana, 46581-1388, completed construction of the new hot box core making process and the two (2) core ovens on the phenolic core making lines #4 and #5 on _____ in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on March 07, 2001 and as permitted pursuant to **Construction Permit No. CP-085-14027, Plant ID No. 085-00003** issued on _____.
5. Additional operations/facilities were constructed/substituted as described in the attachment to this document and were not made in accordance with the construction permit.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature

Date

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of
Indiana on this _____ day of _____, 20 _____.
My Commission expires: _____

Signature

Name (typed or printed)

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document (TSD) for a Part 70 Significant Source Modification.

Source Background and Description

Source Name:	Dalton Corporation, Warsaw Manufacturing Facility
Source Location:	1900 East Jefferson Street, Warsaw, IN 46581-1388
County:	Kosciusko
SIC Code:	3321
Operation Permit No.:	T 085-6708-00003
Operation Permit Issuance Date:	Not yet issued
Significant Source Mod. No.:	085-14027-00003
Permit Reviewer:	Ghassan Shalabi

On June 19, 2001, the Office of Air Quality (OAQ) had a notice published in the Times Union, Warsaw, Indiana, stating that Dalton Corporation had applied for a Part 70 Significant Source Modification for the construction of a hot box core making process line.

The notice also stated that the OAQ proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

1. The IDEM, OAQ has restructured C.10 to clarify the contents and implementation of the compliance response plan. The name of the condition has been changed to better reflect the contents of the condition. The language regarding the OAQ's discretion to excuse failure to perform monitoring under certain conditions has been deleted. The OAQ retains this discretion to excuse minor incidents of missing data; however, it is not necessary to state criteria regarding the exercise of that discretion in the permit. In (c)(2) "administrative amendment" has been revised to "minor permit modification," because 326 IAC 2-7-11(a)(7) has been repealed. Requests that do not involve significant changes to monitoring, reporting, or record keeping requirements may now be approved as minor permit modifications. (changes are bolded and crossed out for emphasis).

~~C.10 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]~~

~~(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:~~

~~(1) This condition;~~

~~(2) The Compliance Determination Requirements in Section D of this permit;~~

~~(3) The Compliance Monitoring Requirements in Section D of this permit;~~

~~(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and~~

- ~~(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this approval. CRP's shall be submitted to IDEM, OAQ upon request and shall be subject to review and approval by IDEM, OAQ. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of:~~
- ~~(A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and~~
- ~~(B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.~~
- ~~(b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to take reasonable response steps may constitute a violation of the permit.~~
- ~~(c) Upon investigation of a compliance monitoring excursion, the Permittee is excused from taking further response steps for any of the following reasons:~~
- ~~(1) A false reading occurs due to the malfunction of the monitoring equipment. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.~~
- ~~(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied.~~
- ~~(3) An automatic measurement was taken when the process was not operating.~~
- ~~(4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.~~
- ~~(d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.~~
- ~~(e) All monitoring required in Section D shall be performed at all times the equipment is operating. If monitoring is required by Section D and the equipment is not operating, then the Permittee may record the fact that the equipment is not operating or perform the required monitoring.~~
- ~~(f) At its discretion, IDEM may excuse the Permittee's failure to perform the monitoring and record keeping as required by Section D, if the Permittee provides adequate justification and documents that such failures do not exceed five percent (5%) of the operating time in any quarter. Temporary, unscheduled unavailability of qualified staff shall be considered a valid reason for failure to perform the monitoring or record keeping requirements in Section D.~~

C.10 Compliance Response Plan - Failure to Take Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]

- (a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:
- (1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected time frame for taking reasonable response steps.
 - (2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.
- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:
- (1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or
 - (2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.
 - (3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, the IDEM, OAQ shall be promptly notified of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.
 - (4) Failure to take reasonable response steps shall constitute a violation of the permit.
- (c) The Permittee is not required to take any further response steps for any of the following reasons:
- (1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has

previously submitted a request for an administrative amendment to the permit, and such request has not been denied.

- (3) An automatic measurement was taken when the process was not operating.**
- (4) The process has already returned or is returning to operating within “normal” parameters and no response steps are required.**
- (d) When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section B-Deviations from Permit Requirements and Conditions.**
- (e) The Permittee shall record all instances when response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.**
- (f) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.**

2. The OAQ made the following revisions to the permit based on the most current information provided by the source identifying the correct Responsible Official and clarifying the raw material used in the hot box core making process (bolded language has been added, the language with a line through it has been deleted).

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates stationary gray iron foundry

Responsible Official:	Mr. James Cartwright Mark Rees , Plant Manager
Source Address:	1900 East Jefferson Street, Warsaw, Indiana, 46581-1388
Mailing Address:	P.O.Box 1388, Warsaw, Indiana, 46581-1388
Phone Number:	219-372-1893 267-8111
SIC Code:	3321
County Location:	Kosciusko
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major, under PSD Major Source, Section 112 of the Clean Air Act 1 of the 28 listed source categories (secondary metal production facility)

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source is approved to construct and operate the following emission units and pollution control devices:

- I. A new hot box core making process with a maximum capacity of 18 tons per hour. The process includes the following emission units:
 - (a) Sand Silo, with a maximum capacity of providing 18 ton of sand per hour to hot

box sand mixer # 9, utilizing an integral bin vent for particulate matter control during loading.

- (b) Sand bin, with a maximum capacity of providing 18 ton of sand per hour to hot box sand mixer # 9, utilizing a cartridge collector for particulate matter control. ~~and exhausting inside the building.~~
- (c) Hot Box Sand Mixer, identified as #9, with a maximum capacity of 18 tons of sand per hour utilizing resin and **Catalyst release agent**.
- (d) One (1) 1.5 MMBtu/hr natural gas fired Hot Box Core Machines, identified as #8, with a maximum capacity of 4.5 tons of sand per hour, utilizing a core box cleaner and **release agent catalyst**.
- (e) Two (2) 1.5 MMBtu/hr natural gas fired Hot Box Core Machines, identified as #9 and #10 with a maximum capacity of 6 tons of sand per hour each, utilizing a core box cleaner and **release agent catalyst**.

SECTION D.1

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- I. A new hot box core making process with a maximum capacity of 18 tons per hour. The process includes the following emission units:
 - (a) Sand Silo, with a maximum capacity of providing 18 ton of sand per hour to hot box sand mixer # 9, utilizing an integral bin vent for particulate matter control during loading.
 - (b) Sand bin, with a maximum capacity of providing 18 ton of sand per hour to hot box sand mixer # 9, utilizing a cartridge collector for particulate matter control. ~~and exhausting inside the building.~~
 - (c) Hot Box Sand Mixer, identified as #9, with a maximum capacity of 18 tons of sand per hour utilizing resin and ~~catalyst release agent~~.
 - (d) One (1) 1.5 MMBtu/hr natural gas fired Hot Box Core Machines, identified as #8, with a maximum capacity of 4.5 tons of sand per hour, utilizing a core box cleaner and **release agent catalyst**.
 - (e) Two (2) 1.5 MMBtu/hr natural gas fired Hot Box Core Machines, identified as #9 and #10 with a maximum capacity of 6 tons of sand per hour each, utilizing a core box cleaner and **release agent catalyst**.
 - (f) Hot Box Core Wash Dip Tank, identified as #1, with a maximum capacity of 16.5 tons of sand per hour.
 - (g) Two (2) Natural gas fired Core Ovens, identified as #1 and #2, with a maximum capacity of 4.0 MMBtu/hr of natural gas each.
- II. Two (2) core ovens on the phenolic core making lines #4 and #5:
 - (a) One (1) 2 MMBtu/ hr Natural gas fired core oven, identified as Natural Gas Core Oven #8, installed on the phenolic coremaking line #4.
 - (b) One (1) 2 MMBtu/ hr Natural gas fired core oven, identified as Natural Gas Core Oven #9, installed on the phenolic coremaking line #5.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

3. The OAQ made the following revisions to clarify the condition of the limits. (Bolded language has been added, the language with the line through it has been deleted).

D.1.2 VOC and HAPs Limits [326 IAC 2-2] [326 IAC 8-1-6] [326 IAC 2-4.1-1]

In order to render the requirements of 326 IAC 8-1-6 (BACT), 326 IAC 2-4.1-1 (New Source Toxics Control), and 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

- (a) The resin input to the hot box sand mixer #9 of the new hot box core making process shall be limited to 72,783.76 gallons per twelve (12) **consecutive month period rolled on a monthly basis** ~~rolling basis at a~~ and the VOC content of the resin ~~at~~ **shall not exceed** 3.5 percent by weight.
- (b) The catalyst input to the hot box **sand mixer #9** ~~core machines #8, #9 and #10~~ of the new hot box core making process shall be limited to 14,716.51 gallons per twelve (12) **consecutive month period rolled on a monthly basis** ~~rolling basis at a~~ and the VOC content of the catalyst ~~at~~ **shall not exceed** 7.7 percent by weight.
- (c) The wash input to the core wash dip tank #1 of the new hot box core making process shall be limited to 39207.57 gallons per twelve (12) **consecutive month period rolled on a monthly basis** ~~rolling basis at a~~ and the VOC content of the core wash ~~at~~ **shall not exceed** 2.0 percent by weight.
- (d) The release agent usage for the new hot box process line shall be limited to 6,828.31 gallons per twelve (12) **consecutive month period rolled on a monthly basis** ~~rolling average and the VOC content of the release agent shall not exceed 1.2 percent by weight.~~
- (e) ~~The PTE VOC of the new hot box core making process shall not exceed 25 tons per year~~ **In conjunction with the above limits and emission ratio of 2.1215 pounds per ton of sand, the VOC PTE from the hot box sand mixer #9, core machines #8, #9, #10 and the core wash dip tank shall be limited to less than 25 ton per year.**

Compliance with the above conditions will also make the requirements of 326 IAC 2-2 and 40 CFR 52.21 (PSD) not apply.

4. The OAQ made the following revisions to the permit to clarify the unit associated with the throughput limit and to correct a typographical error (bolded language has been added, the language with a line through it has been deleted).

D.1.3 PM and PM10 Limits [326 IAC 2-2]

In order to render the requirements 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

- (a) The sand input to the sand silo and the sand bin **associated with the hotbox mixer #9** shall not exceed a rate of 18 tons per hour ~~at a rate of~~ and 0.32 pounds of PM per ton of sand handled.

This limit is equivalent to limited PTE PM of less than 24.50 tons per year. Thus the requirements of 326 IAC 2-2 ~~is are~~ not applicable.
- (b) The sand input to the sand silo and the sand bin **associated with the hotbox mixer #9** shall not exceed a rate of 18 tons per hour ~~at a rate of~~ and 0.18 pounds of PM10 per ton of sand handled.

This limit is equivalent to limited PTE PM10 of less than ~~14.45~~ **14.50** tons per year. Thus the requirements of 326 IAC 2-2 ~~is are~~ not applicable.

Compliance with the above conditions will also make the requirements of 326 IAC 2-2 and 40 CFR 52.21 (PSD) not apply.

Compliance Determination Requirements

D.1.5 Particulate Matter (PM)

In order to comply with D.1.1 and D.1.3 (a) and (b) the cartridge collector and the silo's integrated bin vent for PM control shall be in operation at all times that the sand silo loading and the sand handling systems are in operation.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.9 Record Keeping Requirements

- (a) To document compliance with Condition D.1.6, the Permittee shall maintain records of visible emission notations of the cartridge collector and the silo's integrated bin vent stack exhaust once per shift **during normal daylight operations when exhausting to the atmosphere during loading.**
- (b) To document compliance with conditions D.1.2 (a), (b),(c) and **(d)** the Permittee shall maintain records of usage of the hot box resin, the hot box catalyst, ~~and~~ hot box core wash **and release agent** used in the new hot box core making process.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.10 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.2 (a), (b), (c) and **(d)** ~~(e)~~ shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or the equivalent, within thirty (30) days after the end of the quarter being reported. **The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).**

5. The TSD and Section D.1 were changed because of the following reasons :

- (a) Dalton originally indicated that there was no VOC emission in the hot box release agent. However, after reevaluation, it was determined that there is. The emission rate is 0.03 pounds per ton of sand.
- (b) The VOC emission factors for the Catalyst and the resin were revised to correct errors resulted from rounding-up in calculating these factors.
- (c) The above mentioned changes resulted in changing the sand throughput, the core wash usage, the resin usage and the catalyst usage of the new hot box core making process.

(changes are bolded and crossed out for emphasis).

Potential to Emit of Modification after Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO ₂	VOC	CO	NO _x	HAP's
Sand Silo	0.35	0.05	0	0	0	0	0
Sand Bin	24.50 (d)	0.12	0	0	0	0	0
Hot Box Mixer # 9 (Release Agent)	0	0	0	14.14 (a)(c) 0.34 (e)	0	0	2.68
Core Machines (Cleaner)	0	0	0	0.21 0.23	0	0	0
Core Machines (Catalyst) Catalyst and Resin	0	0	0	5.60 (d) 18.83 (b)(c)	0	0	0
Core Wash Dip Tank #1	0	0	0	4.14 (b) 4.65 (a)	0	0	0
NG Core Oven #1	0.03	0.13	0.01	0.10	1.47	1.75	0.03
NG Core Oven #2	0.03	0.13	0.01	0.10	1.47	1.75	0.03
NG Core Box Burners (3)	0.04	0.15	0.01	0.11	1.66	1.97	0.04
NG Core oven #8, on phenolic coremaking line #4	0.02	0.07	0.01	0.05	0.74	0.88	0.02
NG Core oven #9, on phenolic coremaking line #5	0.02	0.07	0.01	0.05	0.74	0.88	0.02
Total	24.99	0.72	0.05	24.50 24.46	6.02	7.23	2.82
PSD applicability levels	25	15	40	40	100	40	--

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. These limited PTE are achieved by:

- (a) The core wash usage for the new hot box process line shall be limited to ~~32979.33~~ **39,207.57** gallons per twelve (12) month rolling average. The VOC content of the core wash is 2.0 percent by weight.
- (b) The hot box resin usage for the new hot box process line shall be limited to ~~75514.02~~ **72,783.76** gallons per twelve (12) month rolling average. The VOC content of the resin is 3.5 percent by weight.
- (c) The hot box catalyst usage for the new hot box process line is limited to ~~14617.08~~ **14,716.51** gallons per twelve (12) month rolling average. The VOC content of the catalyst is 7.7 percent by weight.
- (d) The PTE PM from the sand bin was limited to 24.50 tons per year according to:
 PSD applicability level – PTE PM (other units) = PTE PM Sand Bin
 25 – 0.49 = 24.51 tons per year.
- (e) **The release agent usage for the new hot box process line shall be limited to 6,828.31 gallons per twelve (12) month rolling average.**

Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

This modification gives the source the authorization to construct and operate the proposed units.

The above limits are based on sand usage of ~~20200~~ **22,670** tons per year. For detailed calculations, refer to Amended Appendix A.

D.1.2 VOC and HAPs Limits [326 IAC 2-2] [326 IAC 8-1-6] [326 IAC 2-4.1-1]

In order to render the requirements of 326 IAC 8-1-6 (BACT), 326 IAC 2-4.1-1 (New Source Toxics Control), and 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

- (a) The resin input to the hot box sand mixer #9 of the new hot box core making process shall be limited to ~~75514.02~~ **72,783.76** gallons per twelve (12) month rolling basis at a VOC content of the resin at 3.5 percent by weight.
- (b) The catalyst input to the hot box core machines #8, #9 and #10 of the new hot box core making process shall be limited to ~~44647.08~~ **14,716.51** gallons per twelve (12) month rolling basis at a VOC content of the catalyst at 7.7 percent by weight.
- (c) The wash input to the core wash dip tank #1 of the new hot box core making process shall be limited to ~~32979.32~~ **39,207.57** gallons per twelve (12) month rolling basis at a VOC content of the core wash at 2.0 percent by weight.
- (d) **The release agent usage for the new hot box process line shall be limited to 6,828.31 gallons per twelve (12) month rolling average and the VOC content of the release agent shall not exceed 1.2 percent by weight..**
- (e) **The PTE VOC of the new hot box core making process shall not exceed 25 tons per year In conjunction with the above limits and emission ratio of 2.1215 pounds per ton of sand, the VOC PTE from the hot box sand mixer #9, core machines #8, #9, #10 and the core wash dip tank shall be limited to less than 25 ton per year.**

Compliance with the above conditions will also make the requirements of 326 IAC 2-2 and 40 CFR 52.21 (PSD) not apply.

6. Dalton is installing the new hot box core making process to fulfill a contract to produce new cores with specific characteristics. The new core machines give Dalton the capability to produce more castings. An analysis of the increase in emissions from increased utilization of the other foundry processes was performed, refer to amended appendix A. This analysis was done by calculating the past actual emissions and subtracting that from the projected future actual emission. The past actual emission were calculated from the average annual production levels of the years 1997 and 1998.

Based on this, the source agreed to limit the emissions and the throughputs of the cupola charge handling process, the cupola, the pouring processes, the cooling processes, the shakeout processes and the finishing processes of the foundry to insure that the increased emissions stay below PSD levels.

Therefore, IDEM, OAQ has added the following D. sections to the Significant Source Modification. IDEM, OAQ has also requested that the Herman 2 molding line should be stack tested in condition D.5.4 because of the following:

- Dalton has accepted new limits for Herman 2.
- The new limits are the same exact limits given to Herman 3 as a result of stack tests conducted on Herman 3 in June 2001.
- These results were the average of three runs.

- The fact that Dalton accepted the same exact limits for Herman 2 without leaving any margin for error made it necessary for IDEM, OAQ to request the stack tests for Herman 2 to verify that Dalton can comply with these new limits.

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

Cupola charge handling operations, constructed prior to 1977, with a nominal charge rate of 53.45 tons of solid metal, coke and limestone per hour, with emissions uncontrolled

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Prevention of Significant Deterioration [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) and 40 CFR 52.21 not applicable, the following conditions shall apply:

1. The PM emissions from the charge handling operation shall be limited to 0.6 pounds per ton of metal charged.
2. The PM10 emissions from the charge handling operation shall be limited to 0.36 pounds per ton of metal charged.
3. The lead emissions from the charge handling operation shall be limited to 0.002 pounds per ton of metal charged.
4. The metal charged shall be limited to 199,194 tons per twelve (12) consecutive month period.

Therefore, the requirements of 326 IAC 2-2 and 40 CFR 52.21 shall not apply to the new hot box core making process.

D.2.2 Particulate Matter Emissions

Pursuant to 326 IAC 6-3-2 (Process Operations), the total particulate matter (PM) from the charge handling process shall not exceed 45.20 pounds per hour when operating at a process weight rate of 53.45 tons of material charged per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate greater than 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 55 P^{0.11} - 40 \quad \text{where} \quad \begin{array}{l} E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour} \end{array}$$

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.3 Record Keeping Requirements

- (a) To document compliance with condition D.2.1, the permittee shall maintain records of the metal charged each month.
- (b) All records shall be maintained in accordance with section C - General Record Keeping Requirements of this permit.

D.2.4 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.2.1 (d) shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or the equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.3

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

One (1) cupola constructed prior to 1977, with a nominal rate of 48.5 tons of metal melted per hour and a maximum heat input capacity from coke of 69.95 million Btu per hour, with emissions controlled by wet scrubber A and two natural gas-fired afterburners and exhausting to stack A, and also with charge door emissions controlled by baghouse A;

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Prevention of Significant Deterioration [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) and 40 CFR 52.21 not applicable, the following conditions shall apply:

- (a) The PM emissions from the cupola shall be limited to 0.821 pounds per ton metal.
- (b) The PM10 emissions from the cupola shall be limited to 0.738 pounds per ton metal.
- (c) The SO2 emissions from the cupola shall be limited to 1.25 pounds per ton metal.
- (d) The NOx emissions from the cupola shall be limited to 0.1 pounds per ton metal.
- (e) The VOC emissions from the cupola shall be limited to 0.009 pounds per ton metal.
- (f) The CO emissions from the cupola shall be limited to 7.250 pounds per ton metal.
- (g) The Lead emissions from the cupola shall be limited to 0.002 pounds per ton metal.
- (h) The amount of metal melted in the Cupola shall be limited to 187,919 tons per twelve (12) consecutive month period.

Therefore, the requirements of 326 IAC 2-2 and 40 CFR 52.21 shall not apply to the new hot box core making process.

D.3.2 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Process Operations), the total particulate matter (PM) from scrubber controlling the cupola and the baghouse controlling the charge door emissions shall not exceed 44.3 pounds per hour when operating at a process weight rate of 48.5 tons of metal melted per hour. Note: This limitation is for both the baghouse and the scrubber combined.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate greater than 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 55 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

D.3.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the cupola, the cupola charge door, the baghouse, wet scrubber and the two afterburners.

Compliance Determination Requirements

D.3.4 Testing Requirements [326 IAC 2-7-6(1),(6)]

Within one (1) year after startup of the new hot box core making process, the Permittee shall perform PM, PM10 and CO testing on the baghouse and the wet scrubber controlling the cupola using methods as approved by the Commissioner, in order to demonstrate compliance with condition D.3.1. This test shall be repeated at least once every two and a half (2.5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance. Testing shall be conducted in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM10.

D.3.5 Emission Controls [326 IAC 9-1]

- (a) In order to comply with Conditions D.3.1 and D.3.2, the wet scrubber and baghouse for PM control shall be in operation and control emissions from the cupola at all times that the cupola is in operation and during startup of the cupola.
- (b) Pursuant to 326 IAC 9-1, two afterburners shall be in operation for CO control from the cupola at all times that the cupola is in operation and during startup of the cupola.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.6 Visible Emissions Notations

- (a) Visible emission notations of the wet scrubber and baghouse stack exhausts and of the charge door emissions shall be performed once per shift during normal daylight operations when the cupola is in operation and exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

D.3.7 Temperature Monitoring

The Permittee shall continuously record the operating temperature of the upper stack when the cupola is in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the upper stack temperatures shall be maintained at a minimum of 1400 degrees F with an afterburner ramp-up time of 30 minutes or the length of time the cupola was off blast, or a minimum temperature established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the temperature is below the above mentioned minimum for any one reading.

D.3.8 Scrubber Parametric Monitoring

The Permittee shall record the total static pressure drop and flow rate of the scrubber used in conjunction with the cupola, at least once per shift when the cupola is in operation when venting to the atmosphere. When for any one reading, the pressure drop across the wet scrubber is below a minimum of 34 inches of water or a minimum established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Failure to Take Response Steps. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the flow rate shall be maintained at a minimum of 225 gallons per minute or a minimum flow rate established during the latest stack test. A pressure reading or flow rate that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

The instrument used for determining the pressure and flow rate shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.

D.3.9 Scrubber Inspections

An inspection shall be performed each calendar quarter of the scrubber controlling the cupola. All defective scrubber parts shall be replaced.

D.3.10 Scrubber Failure

In the event that scrubber failure has been observed:

- (a) The affected process will be shut down immediately until the failed unit has been replaced.**
- (b) Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion.**

D.3.11 Baghouse Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse controlling the charge door emissions, at least once per shift when the associated process is in operation when venting to the atmosphere. When for any one reading, the pressure drop across the baghouses is outside the range of 4.0 and 10.0 or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Failure to Take Response Steps. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.3.12 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the cupola charge door when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

D.3.13 Broken or Failed Bag Detection

In the event that bag failure has been observed.

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business hours of the**

determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.14 Record Keeping Requirements

- (a) To document compliance with condition D.3.1 (h), the permittee shall maintain records of the metal melted in the cupola each month.
- (b) To document compliance with Condition D.3.6, the Permittee shall maintain records of visible emission notations of the baghouse and wet scrubber stack exhausts once per shift during normal daylight hours when exhausting to the atmosphere during cupola operation.
- (c) To document compliance with Condition D.3.7, the Permittee shall maintain records of the temperature of the upper stack of the cupola continuously.
- (d) To document compliance with Condition D.3.8, the Permittee shall maintain records of the pressure drop and flow rate readings of the scrubber once per shift when the cupola is in operation.
- (e) To document compliance with Condition D.3.10, the Permittee shall maintain records of the inlet and outlet differential static pressure once per shift during normal operation.
- (f) To document compliance with Conditions D.3.9 and D.3.12, the Permittee shall maintain records of the results of the inspections required under Conditions D.3.9 and D.3.12 and the number and type of any parts replaced.
- (g) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.15 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.3.1 (h) shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or the equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.4

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (1) One (1) Pallet Line pouring process, constructed prior to 1977, with a maximum capacity of 16.5 tons of metal per hour and 153 tons of core and molding sand per hour, with emissions uncontrolled;**
- (2) One (1) Pallet Line castings cooling process, constructed prior to 1977, with a maximum capacity of 16.5 tons of metal per hour and 153 tons of core and molding sand per hour, with emissions uncontrolled;**
- (3) One (1) Herman 1 pouring process, constructed prior to 1977, with a maximum capacity of 30 tons of metal per hour and 155 tons of core and molding sand per hour, with emissions uncontrolled;**
- (4) One (1) Herman 1 castings cooling process, constructed prior to 1977, with a maximum capacity of 30 tons of metal per hour and 155 tons of core and molding sand per hour, with emissions uncontrolled;**
- (5) One (1) Herman 2 pouring process, constructed prior to 1977, with a maximum capacity of 37 tons of metal per hour and 166 tons of core and molding sand per hour, with emissions uncontrolled;**
- (6) One (1) Herman 2 castings cooling process, constructed prior to 1977, with a maximum capacity of 37 tons of metal per hour and 166 tons of core and molding sand per hour, with emissions uncontrolled;**
- (7) One (1) Herman 3 pouring process, constructed prior to 1977 and modification permitted in 1991, with a maximum capacity of 28 tons of metal per hour and 165 tons of core and molding sand per hour, with emissions uncontrolled;**
- (8) One (1) Herman 3 castings cooling process, constructed prior to 1977 and modification permitted in 1991, with a maximum capacity of 28 tons of metal per hour and 165 tons of core and molding sand per hour, with emissions uncontrolled;**

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Prevention of Significant Deterioration [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) and 40 CFR 52.21 not applicable, the following conditions shall apply:

- (a) The PM emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 pouring processes shall be limited to 0.118 pounds per ton metal each.**
- (b) The PM 10 emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 pouring processes shall be limited to 0.052 pounds per ton metal each.**

- (c) The SO₂ emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 pouring processes shall be limited to 0.020 pounds per ton metal each.
- (d) The NO_x emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 pouring processes shall be limited to 0.010 pounds per ton metal each.
- (e) The VOC emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 pouring processes shall be limited to 0.163 pounds per ton metal each.
- (f) The Lead emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 pouring processes shall be limited to 0.016 pounds per ton metal each.
- (g) The PM emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 cooling processes shall be limited to 0.288 pounds per ton metal each.
- (h) The PM₁₀ emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 cooling processes shall be limited to 0.196 pounds per ton metal each.
- (i) The VOC emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 cooling processes shall be limited to 0.687 pounds per ton metal each.

Therefore, the requirements of 326 IAC 2-2 and 40 CFR 52.21 shall not apply to the new hot box core making process

D.4.2 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Process Operations), the following conditions shall apply:

- (a) The particulate matter (PM) from the Pallet Line pouring/casting operation shall not exceed 56.7 pounds per hour when operating at a process weight rate of 170 tons of sand and metal per hour.
- (b) The particulate matter (PM) from the Pallet Line castings cooling operation shall not exceed 56.7 pounds per hour when operating at a process weight rate of 170 tons of sand and metal per hour.
- (c) The particulate matter (PM) from the Herman 1 pouring/casting operation shall not exceed 57.7 pounds per hour when operating at a process weight rate of 185 tons of sand and metal per hour.
- (d) The particulate matter (PM) from the Herman 1 castings cooling operation shall not exceed 57.7 pounds per hour when operating at a process weight rate of 185 tons of sand and metal per hour.
- (e) The particulate matter (PM) from the Herman 2 pouring/casting operation shall not exceed 58.7 pounds per hour when operating at a process weight rate of 203 tons of sand and metal per hour.
- (f) The particulate matter (PM) from the Herman 2 castings cooling operation shall not exceed 58.7 pounds per hour when operating at a process weight rate of 203 tons of sand and metal per hour.

- (g) The particulate matter (PM) from the Herman 3 pouring/casting operation shall not exceed 58.1 pounds per hour when operating at a process weight rate of 193 tons of sand and metal per hour.**
- (h) The particulate matter (PM) from the Herman 3 castings cooling shall not exceed 58.1 pounds per hour when operating at a process weight rate of 193 tons of sand and metal per hour.**

The pounds per hour limitations were calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate greater than 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 55 P^{0.11} - 40 \quad \text{where} \quad \begin{array}{l} E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour} \end{array}$$

SECTION D.5

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (1) One (1) Herman 1 and Pallet Line shakeout process, constructed prior to 1977, with a maximum capacity of 46.5 tons of metal per hour and 308 tons of core and molding sand per hour, with emissions controlled by scrubber C and exhausting to stack C;**
- (2) One (1) Herman 1 and Pallet Line mold sand handling process, constructed prior to 1977, with a maximum capacity of 300 tons of molding sand per hour, with emissions controlled by scrubbers B and C, and exhausting to stacks B and C respectively;**
- (3) One (1) Herman 2 shakeout process, constructed prior to 1977, with a maximum capacity of 37 tons of metal per hour and 166 tons of core and molding sand per hour, with emissions controlled by scrubber B and exhausting to stack B;**
- (4) Herman 2 mold sand handling operations constructed prior to 1977, with a maximum capacity of 150 tons of molding sand per hour, with emissions controlled by baghouse F, and baghouse Y and exhausting to stacks F, and Y respectively;**
- (5) One (1) Herman 3 shakeout process, constructed prior to 1977 and modification permitted 1991, with a maximum capacity of 28 tons of metal per hour and 165 tons of core and molding sand per hour, with emissions controlled by scrubber E and baghouse W and exhausting to stack E and W respectively;**
- (6) Herman 3 molding sand handling operations constructed prior to 1977 and modification permitted in 1991, with maximum capacity of 150 tons of molding sand per hour, with emissions controlled by scrubbers D and E, and baghouse W, and exhausting to stacks D, E and W respectively;**
- (7) One (1) waste sand transport process, constructed prior to 1977, with a maximum capacity of 20 tons of waste sand per hour, with emissions controlled by baghouses G and R and exhausting to stack G and R, respectively;**

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Prevention of Significant Deterioration [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) and 40 CFR 52.21 not applicable, the following conditions shall apply:

- (a) The PM emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 shakeout and sand handling processes shall be limited to 0.034 pounds per ton metal and sand each.**
- (b) The PM10 emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 shakeout and sand handling processes shall be limited to 0.058 pounds per ton metal and sand each.**
- (c) The VOC emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 shakeout and sand handling processes shall be limited to 0.115 pounds per ton metal and sand each.**

- (d) The lead emissions from the Pallet line, Herman 1, Herman 2 and Herman 3 shakeout and sand handling processes shall be limited to 0.00018 pounds per ton of metal each.
- (e) The PM emissions from the waste sand transport process shall be limited to 0.072 pounds per ton sand each.
- (f) The PM10 emissions from the waste sand transport process shall be limited to 0.011 pounds per ton sand each.
- (g) The amount of core and mold sand handled for the entire source shall be limited to 1,127,516 tons of sand per twelve consecutive month period.
- (h) The amount of sand throughput to the waste sand transport process shall be limited to 112,752 tons of sand per twelve consecutive month period.

Therefore, the requirements of 326 IAC 2-2 and 40 CFR 52.21 shall not apply to the new hot box core making process.

The Herman 3 molding line emission units covered by this condition have been referred to enforcement for allegedly violating PSD. The permit shield covered by 326 IAC 2-7-15 does not apply to this condition and compliance with this condition shall not be deemed compliance with 326 IAC 2-2 or 40 CFR 52.21.

D.5.2 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Process Operations), the following conditions shall apply:

- (a) The particulate matter (PM) from the Herman 1 and Pallet Line shakeout operation shall not exceed 64.91 pounds per hour when operating at a process weight rate of 354.50 tons of sand and metal per hour.
- (b) The particulate matter (PM) from the Herman 1 and Pallet Line mold sand handling operation shall not exceed 63.0 pounds per hour when operating at a process weight rate of 300 tons of molding sand per hour.
- (c) The particulate matter (PM) from the Herman 2 shakeout operation shall not exceed 58.7 pounds per hour when operating at a process weight rate of 203 tons of sand and metal per hour.
- (d) The particulate matter (PM) from the Herman 2 mold sand handling operation shall not exceed 55.4 pounds per hour when operating at a process weight rate of 150 tons of molding sand per hour.
- (e) The particulate matter (PM) from Herman 3 shakeout operation shall not exceed 58.1 pounds per hour when operating at a process weight rate of 193 tons of sand and metal per hour.
- (f) The particulate matter (PM) from Herman 3 mold sand handling operation shall not exceed 55.4 pounds per hour when operating at a process weight rate of 150 tons of molding sand per hour.
- (g) The particulate matter (PM) from the baghouses G and R controlling the waste sand transport operation shall not exceed 30.5 pounds per hour when operating at a process weight rate of 20 tons of waste sand per hour.

Compliance with the limits in D.5.1 will also demonstrate compliance with this

condition.

The pounds per hour limitations for (a) and (f) were calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate greater than 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 55 P^{0.11} - 40$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

The pounds per hour limitation for (i) was calculated with the following equation:

Interpolation of the data for the process weight rates less than or equal to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.5.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

Compliance Determination Requirements

D.5.4 Testing Requirements [326 IAC 2-7-6(1),(6)]

Within 18 months after startup of the new hot box core making process, the Permittee shall perform PM and PM10 testing on baghouse F, baghouse Y and scrubber B controlling Herman 2 shakeout and sand handling processes using methods as approved by the Commissioner, in order to demonstrate compliance with condition D.5.1. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance. Testing shall be conducted in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM10.

D.5.5 Emission Controls

- (a) The wet scrubber C for PM control shall be in operation and control emissions from the Herman 1 and Pallet Line shakeout and sand handling at all times that either of these processes is in operation.
- (b) The bin vent shall be in place at all times that Herman 1 and Pallet Line sand handling are in operation.
- (c) The wet scrubber B for PM control shall be in operation and control emissions from the Herman 2 shakeout, the Herman 1 and Pallet Line mold sand handling, and the Herman 2 mold sand handling at all times that any of these processes is in operation.
- (d) The baghouses F and Y for PM control shall be in operation and control emissions from the Herman 2 mold sand handling at all times that the Herman 2 mold sand handling is in operation.

- (e) The baghouse W and wet scrubber E for PM control shall be in operation and control emissions from Herman 3 shakeout or mold sand handling at all times that either of these processes is in operation.
- (f) The baghouse W and wet scrubbers D and E for PM control shall be in operation and control emissions from the Herman 3 mold sand handling at all times that the Herman 3 mold sand handling is in operation.
- (g) The baghouses G and R for PM control shall be in operation and control emissions from the waste sand transport system at all times that the waste sand transport system is in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.5.6 Visible Emissions Notations

- (a) Visible emission notations of the wet scrubbers B, C, D, E and baghouses F, G, R, W and Y stack exhausts shall be performed once per shift during normal daylight operations when exhausting to the atmosphere and when the Herman 1, Pallet line, Herman 2 and Herman 3 mold sand handling and shakeout processes and the waste sand transport process are in operation. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

D.5.7 Scrubber Parametric Monitoring

The Permittee shall record the total static pressure drop and flow rate of scrubbers B, C, D and E used in conjunction with the Herman 1, Pallet line, Herman 2 and Herman 3 shakeout processes and Herman 1, Pallet line, Herman 2 and Herman 3 mold sand handling processes, at least once per shift when the associated processes are in operation when venting to the atmosphere. When for any one reading, the pressure drop across the wet scrubber is below a minimum of 8 inches of water or a minimum established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Failure to Take Response Steps. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the flow rate shall be maintained at a minimum of 225 gallons per minute or a minimum flow rate established during the latest stack test. A pressure reading or flow rate that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

The instruments used for determining the pressures and flow rates shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.5.8 Scrubber Inspections

An inspection shall be performed each calendar quarter of the scrubbers B, C, D and E. All defective scrubber parts shall be replaced.

D.5.9 Scrubber Failure

In the event that scrubber failure has been observed:

- (a) The affected process will be shut down immediately until the failed unit has been replaced. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.**
- (b) Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion.**

D.5.10 Baghouse Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouses F, G, R, W and Y used in conjunction with the Herman 2 and Herman 3 mold sand handling, Herman 3 shakeout process and the waste sand transport process at least once per shift when the associated processes are in operation when venting to the atmosphere. When for any one reading, the pressure drop across the baghouses is outside the range of 4.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Failure to Take Response Steps. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

The instruments used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.5.11 Baghouse Inspections

An inspection shall be performed each calendar quarter of all the bags controlling the Herman 1 and Pallet Line shakeout and mold sand handling emissions, Herman 3 mold sand handling emissions and the waste sand transport emissions. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

D.5.12 Broken or Failed Bag Detection

In the event that bag failure has been observed.

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business hours of the**

determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).**

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.5.13 Record Keeping Requirements

- (a) To document compliance with condition D.5.1, the permittee shall maintain records of the sand handled and the waste sand transported each month.**
- (b) To document compliance with Condition D.5.6, the Permittee shall maintain records of visible emission notations of the baghouses and wet scrubbers stack exhausts once per shift during normal daylight hours when exhausting to the atmosphere and when the Pallet, Herman 1, Herman 2 and Herman 3 molding lines and waste sand transport are in operation.**
- (c) To document compliance with Condition D.5.7, the Permittee shall maintain records of the pressure drop and flow rate readings of the scrubbers once per shift when the Pallet, Herman 1, Herman 2 and Herman 3 molding lines and waste sand transport are in operation.**
- (d) To document compliance with Condition D.5.10, the Permittee shall maintain records of the inlet and outlet differential static pressure once per shift during normal operation.**
- (e) To document compliance with Conditions D.5.8 and D.5.11, the Permittee shall maintain records of the results of the inspections required and the number and type of any parts replaced.**
- (f) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.**

D.5.14 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.5.1 (g) and D.5.1 (h) shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or the equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.6

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (1) One (1) SB-1 shot blast machine, constructed prior to 1977, with a maximum capacity of 5.0 tons of iron castings per hour, with emissions controlled by baghouse H;
- (2) One (1) SB-2 shot blast machine, constructed prior to 1977, with a maximum capacity of 5.0 tons of iron castings per hour, with emissions controlled by baghouse H;
- (3) One (1) SB-3 shot blast machine, constructed in 1981, with a maximum capacity of 5.0 tons of iron castings per hour, with emissions controlled by baghouse H;
- (4) One (1) SB-4 shot blast machine, constructed prior to 1977, with a maximum capacity of 5.0 tons of iron castings per hour, with emissions controlled by baghouse H;
- (5) One (1) SB-5 shot blast machine, constructed prior to 1977, with a maximum capacity of 5.0 tons of iron castings per hour, with emissions controlled by baghouse AG;
- (6) One (1) SB-6 shot blast machine, constructed in 1981, with a maximum capacity of 5.0 tons of iron castings per hour, with emissions controlled by baghouse AG;
- (7) One (1) SB-7 Pangborn shot blast machine, constructed in 1978, with a maximum capacity of 6.0 tons of iron castings per hour, with emissions controlled by baghouse K;
- (8) One (1) SB-8 shot blast machine, constructed in 1988, with a maximum capacity of 8.0 tons of iron castings per hour, with emissions controlled by baghouse AG;
- (9) One (1) SB-9 shot blast machine, constructed in 1995, with a maximum capacity of 12.5 tons of iron castings per hour, with emissions controlled by baghouse X;
- (10) Grinders GR1 through GR10, GR25, GR 29 and GR30, each with a maximum capacity of 4.0 tons of iron castings per hour, with emissions controlled by baghouse AD;
- (11) Grinders GR11 through GR14, GR16 and GR17 each with a maximum capacity of 4.0 tons of iron castings per hour, with emissions controlled by baghouse AG;
- (12) Grinders GR19 through GR23 and Grinders 34 through 36 each with a maximum capacity of 4.0 tons of iron castings per hour, with emissions controlled by baghouse K;
- (13) Grinders GR31 through GR33, each with a maximum capacity of 4.0 tons of iron castings per hour, with emissions controlled by baghouse X.

Note: The grinders are considered insignificant activities, but are listed here because some baghouses control a combination of grinders and shotblast machines.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.6.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2] [326 IAC 8-1-6]

In order to render the requirements of 326 IAC 2-2 (PSD) and 40 CFR 52.21 not applicable, the following conditions shall apply:

- (a) The PM emissions from each shot blast machine shall be limited to 0.5066 pounds per ton of metal finished.
- (b) The PM10 emissions from each shot blast machine shall be limited to 0.5066 pounds per ton of metal finished.

- (c) The lead emissions from each shot blast machine shall be limited to 0.0045 pounds per ton of metal finished.
- (d) The total finished metal from the entire foundry shall not exceed 112,752 tons of castings finished per twelve consecutive month period.

Therefore, the requirements of 326 IAC 2-2 (PSD) and 40 CFR 52.21 do not apply to the new hot box core making process.

D.6.2 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Process Operations), the following conditions shall apply:

- (a) The particulate matter (PM) emissions from each of the shot blast machines SB-1, SB-2, SB-4 and SB-5 shall not exceed 12.1 pounds per hour each, when operating at a process weight rate of 5 tons of iron castings per hour each.
- (b) The particulate matter (PM) emissions from each of the shot blast machines SB-3, SB-6, and SB-8 shall not exceed 8.56 pounds per hour each when operating at a process weight rate of 3.0 tons of iron castings per hour each.
- (c) The particulate matter (PM) emissions from shot blast machine SB-7 shall not exceed 13.62 pounds per hour when operating at process weight rate of 6.0 tons of iron castings per hour.
- (d) The particulate matter (PM) emissions from baghouse X controlling the shot blast machine SB-9 shall not exceed 22.3 pounds per hour when operating at a process weight rate of 12.5 tons of iron castings per hour.
- (e) The particulate matter (PM) emissions from each of the grinders shall not exceed 10.4 pounds per hour when operating at a process weight rate of 4.0 tons of iron castings per hour each.

The pounds per hour limitations were calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where} \quad E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

D.6.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the baghouses controlling the shotblasters.

Compliance Determination Requirements

D.6.4 Emission Controls

- (a) The baghouse H for PM control shall be in operation and control emissions from the shotblasters SB-1, SB-2, SB-3, and SB-4 at all times that any one of these shotblasters is in operation.
- (b) The baghouse AG for PM control shall be in operation and control emissions from the shotblasters SB-5, SB-6, and SB-8 at all times that any one of these shotblasters is in operation.
- (c) The baghouse K for PM control shall be in operation and control emissions from

the shotblaster SB-7 at all times that the shotblaster SB-7 is in operation.

- (d) **The baghouse X for PM control shall be in operation and control emissions from the shotblaster SB-9 at all times that the shotblaster SB-9 is in operation.**
- (e) **The baghouse AD for PM control shall be in operation and control emissions from grinders GR1 through GR10, GR25, GR 29 and GR30 at all times that grinders GR1 through GR10, GR25, GR 29 and GR30 are in operation.**
- (f) **The baghouse AG for PM control shall be in operation and control emissions from grinders GR11 through GR14, GR16 and GR17 at all times that grinders GR11 through GR14, GR16 and GR17 are in operation.**
- (g) **The baghouse K for PM control shall be in operation and control emissions from grinders GR19 through GR23 and Grinders 34 through 36 at all times that grinders GR19 through GR23 and Grinders 34 through 36 are in operation.**
- (h) **The baghouse X for PM control shall be in operation and control emissions from grinders GR31 through GR33 at all times that grinders GR31 through GR33 are in operation.**

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.6.5 Visible Emissions Notations

- (a) **Visible emission notations of each of the baghouses H, K, AG, and X stack exhausts shall be performed once per shift during normal daylight hours when exhausting to the atmosphere and when the shotblasters are in operation. A trained employee shall record whether emissions are normal or abnormal.**
- (b) **For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.**
- (c) **In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.**
- (d) **A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.**
- (e) **The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.**

D.6.6 Baghouse Parametric Monitoring

The Permittee shall record the total static pressure drop across baghouses H, K and X used in conjunction with shotblasters, at least once per shift when the associated processes are in operation when venting to the atmosphere. When for any one reading, the pressure drop across the baghouse is outside the normal range of 4.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Failure to Take Response Steps. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance

with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.6.7 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the shotblasters. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

D.6.8 Broken or Failed Bag Detection

In the event that bag failure has been observed.

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Failure to Take Response Steps, shall be considered a violation of this permit.**
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).**

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.6.9 Record Keeping Requirements

- (a) To document compliance with condition D.6.1 (d), the source shall maintain record of the total metal finished per month.**
- (b) To document compliance with Condition D.6.5, the Permittee shall maintain records of visible emission notations of the baghouse H, AG, K, and X stack exhausts once per shift when exhausting to the atmosphere and when the blasters are in operation.**
- (c) To document compliance with Condition D.6.6, the Permittee shall maintain records of the inlet and outlet differential static pressure once per shift during normal operation.**
- (d) To document compliance with Conditions D.6.7, the Permittee shall maintain records of the results of the inspections required under Condition D.6.7.**
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit**

D.6.10 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.6.1 (d) shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or the equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

7. The IDEM, OAQ has added the following reporting forms to document compliance with conditions in the added D sections to the Significant Source Modification:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.: 085-14027-00003
Facility: Cupola
Parameter: Metal Melted
Limit: 187,795 tons/yr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

A certification is required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.:085-14027-00003
Facility: Cupola charge handling facility
Parameter: Metal charged
Limit: 199,063 tons/yr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

A certification is required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.: 085-14027-00003
Facility: All shotblasters
Parameter: Finished Metal
Limit: 112,677 finished metal/yr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

A certification is required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.:085-14027-00003
Facility: All sand handling systems
Parameter: Sand handled
Limit: 1,126,770 tons/yr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

A certification is required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.: 085-14027-00003
Facility: Waste Sand Handling Systems
Parameter: Sand throughput to the Waste Sand Handling Systems
Limit: 112,677 tons/yr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

A certification is required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.: 085-14027-00003
Facility: Hot Box Sand Mixer #9
Parameter: Release agent Usage
Limit: 6,828.31 gallons/yr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

A certification is required for this report.

8. The IDEM, OAQ has changed the limits in the following reporting forms to reflect changes made in 1:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.: 085-14027-00003
Facility: Hot Box Sand Mixer #9
Parameter: Hot Box Resin Usage
Limit: ~~75514.02~~ **72,783.76** gallons/yr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

A certification is required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.: 085-14027-00003
Facility: **Hot Box Sand Mixer #9** ~~Hot Box Core Machines #8, #9, #10~~
Parameter: Hot Box Catalyst Usage
Limit: ~~14617.08~~ **14,716.51** gallons/yr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

A certification is required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 East Jefferson Street, Warsaw, IN 46581-1388
Mailing Address: P.O.Box 1388, Warsaw, Indiana, 46581-1388
Source Modification No.: 085-14027-00003
Facility: Core Wash Dip Tank #1
Parameter: Core Wash Usage
Limit: ~~32979.33~~ **39,207.57** gallons/yr

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

A certification is required for this report.

**Indiana Department of Environmental Management
Office of Air Quality**

**Technical Support Document (TSD) for a Part 70 Significant Source
Modification.**

Source Background and Description

Source Name:	Dalton Corporation, Warsaw Manufacturing Facility
Source Location:	1900 East Jefferson Street, Warsaw, IN 46581-1388
County:	Kosciusko
SIC Code:	3321
Operation Permit No.:	T085-6708-00003
Operation Permit Issuance Date:	Not Yet Issued
Significant Source Modification No.:	085-14027-00003
Permit Reviewer:	Ghassan Shalabi

The Office of Air Quality (OAQ) has reviewed a modification application from Dalton Corporation, Warsaw Manufacturing Facility relating to the construction and operation of the following emission units and pollution control devices:

- I. A new hot box core making process with a maximum capacity of 18 tons per hour. The process includes the following emission units:
 - (a) Sand Silo, with a maximum capacity of providing 18 ton of sand per hour to hot box sand Mixer # 9, utilizing a bin vent for particulate matter control during loading.
 - (b) Sand bin, with a maximum capacity of providing 18 ton of sand per hour to hot box sand mixer # 9, utilizing a cartridge collector for particulate matter control and exhausting inside the building.
 - (c) Hot Box Sand Mixer, identified as #9, with a maximum capacity of 18 tons of sand per hour, utilizing resin and release agent.
 - (d) One (1) 1.5 MMBtu/hr natural gas fired Hot Box Core Machine, identified as #8, with a maximum capacity of 4.5 tons of sand per hour, utilizing a core box cleaner and catalyst.
 - (e) Two (2) 1.5 MMBtu/hr natural gas fired Hot Box Core Machines, identified as #9 and #10 with a maximum capacity of 6 tons of sand per hour each, utilizing a core box cleaner and catalyst.
 - (f) Hot Box Core Wash Dip Tank, identified as #1, with a maximum capacity of 16.5 tons of sand per hour.
 - (g) Two (2) Natural Gas fired Core Ovens, identified as #1 and #2, with a maximum

capacity of 4.0 MMBtu/hr of natural gas each.

- II. Two (2) core ovens on the phenolic core making lines #4 and #5:
 - (a) One (1) 2 MMBtu/hr Natural Gas fired core oven, identified as Natural Gas Core Oven #8, installed on the phenolic coremaking line #4.
 - (b) One (1) 2 MMBtu/hr Natural Gas fired core oven, identified as Natural Gas Core Oven #9, installed on the phenolic coremaking line #5.

History

An application for the construction and operation of the new hot box coremaking process was received on March 07, 2001 for the purposes of this review. An exemption request for the construction of the two (2) natural gas core ovens on the phenolic core making lines #4 and #5 was received on April 24, 2001. Since both were regarding the core making processes at Dalton Corporation, the exemption request (2nd application) was combined with the source modification application (1st application) on April 27, 2001.

The initial process of this application was a significant source modification. However, discussions with the source later on changed that to a minor source modification. The source has agreed to suspend the regulatory time accountability on this modification pending issuance prior to May 30, 2001.

The modification was unable to meet the requirements of a minor source modification. The time accountability was restarted and the permit review was continued as a significant source modification. See "Justification for modification" for more details.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Part 70 Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

Emission Calculations

See Appendix A of this document for detailed emissions calculations for the new hot box core making process (3 Pages).

The HAP calculations submitted by the source were reviewed and found to be acceptable.

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	567.78
PM-10	85.70
SO ₂	0.04
VOC	188.43
CO	6.07
NO _x	7.23

HAP's	Potential To Emit (tons/year)
Formaldehyde	4.34
Glycol Ether	16.56
Combined HAPS	21.04

Justification for Modification

The Part 70 Operating permit (Not yet issued) is being modified through a Part 70 Significant Source Modification. This modification is being performed pursuant to 326 IAC2-7-10.5 (f)(4). The potential to emit is greater than or equal to twenty-five (25) tons per year for PM, PM-10 and VOC.

Initial processing of the application by IDEM was as a significant source modification (SSM). At the request of Dalton, IDEM looked into processing the application as a minor source modification (MSM) pursuant to 326 IAC 2-7-10.5(d)(5). IDEM asked Dalton for a letter suspending the permitting time clock because it already exceeded the time requirement for (MSM). The PTE VOC, PM, and PM10 are being limited to less than 25 tons per year. The PTE VOC were limited pursuant to 326 IAC 2-7-10.5(d)(5)(A). The PTE PM/PM10 were limited pursuant to 326 IAC 2-7-10.5(d)(5)(C). IDEM's interpretation of this rule was that all four items under (C) must be complied with. 326 IAC 2-7-10.5 (d)(5)(C)(iii) states that the potential to emit before controls cannot exceed major source thresholds for federal permitting programs. Dalton Corporation is currently a major PSD source. As such, the potential to emit (PTE) before controls for PM/PM10 cannot exceed the PSD significance levels of 25/15 tons per year respectively. The PTE before control for this modification exceeds these thresholds. IDEM tried to establish a raw material throughput limits (sand usage limits to the sand silo and the sand bin) pursuant to 326 IAC 2-7-10.5(d)(5)(E). The amount of sand required to limit the PTE PM/PM10 to less than 25/15 tons per year was not sufficient for Dalton to operate the process, therefore Dalton requested IDEM to process the application as a SSM. The time accountability was restarted.

County Attainment Status

The source is located in Kosciusko County.

Pollutant	Status
PM-10	Attainment
SO ₂	Attainment
NO ₂	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Kosciusko County has been

designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

- (b) Kosciusko County has been classified as attainment or unclassifiable for PM-10, SO₂, NO₂, CO and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	251
PM-10	251
SO ₂	30
VOC	378
CO	826
NO _x	30

This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the 28 listed source categories.

These emissions are based upon Plant Emission Inventory for 1999 [Yearly Source Emission].

Potential to Emit of Modification after Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

Process/facility	Potential to Emit (tons/year)						
	PM	PM-10	SO ₂	VOC	CO	NO _x	HAP's
Sand Silo	0.35	0.05	0	0	0	0	0
Sand Bin	24.50	0.12	0	0	0	0	0
Hot Box Mixer # 9	0	0	0	14.14 (a)(c)	0	0	2.68
Core Machines (Cleaner)	0	0	0	0.21	0	0	0
Core Machines (Catalyst)	0	0	0	5.60 (d)	0	0	0
Core Wash Dip Tank #1	0	0	0	4.14 (b)	0	0	0

NG Core Oven #1	0.03	0.13	0.01	0.10	1.47	1.75	0.03
NG Core Oven #2	0.03	0.13	0.01	0.10	1.47	1.75	0.03
NG Core Box Burners (3)	0.04	0.15	0.01	0.11	1.66	1.97	0.04
NG Core oven #8, on phenolic coremaking line #4	0.02	0.07	0.01	0.05	0.74	0.88	0.02
NG Core oven #9, on phenolic coremaking line #5	0.02	0.07	0.01	0.05	0.74	0.88	0.02
Total	24.99	0.72	0.05	24.50	6.02	7.23	2.82
PSD applicability levels	25	15	40	40	100	40	--

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. These limited PTE are achieved by:

- (a) The core wash usage for the new hot box process line shall be limited to 32979.33 gallons per twelve (12) month rolling average. The VOC content of the core wash is 2.0 percent by weight.
- (b) The hot box resin usage for the new hot box process line shall be limited to 75514.02 gallons per twelve (12) month rolling average. The VOC content of the resin is 3.5 percent by weight.
- (c) The hot box catalyst usage for the new hot box process line is limited to 14617.08 gallons per twelve (12) month rolling average. The VOC content of the catalyst is 7.7 percent by weight.
- (d) The PTE PM from the sand bin was limited to 24.50 tons per year according to:
 PSD applicability level – PTE PM (other units) = PTE PM Sand Bin
 $25 - 0.49 = 24.51$ tons per year

Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

This modification gives the source the authorization to construct and operate the proposed units.

The above limits are based on sand usage of 20200 tons per year. For detailed calculations, refer to appendix A.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this proposed modification.

State Rule Applicability - Individual Facilities

326 IAC 5-1 (Opacity)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitation), opacity shall meet the following, unless otherwise stated in this approval:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-3-2 (Process Operations)

- (a) The particulate matter (PM) from the sand Silo shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

$$E = 4.10 (18)^{0.67} = 28.43 \text{ lb/hr}$$

The integrated bin vent shall be in operation at all times the sand silo is in operation, in order to comply with this limit.

- (b) The particulate matter (PM) from the sand bin shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

$$E = 4.10 (18)^{0.67} = 28.43 \text{ lb/hr}$$

The cartridge collector shall be in operation at all times the sand bin is in operation, in order to comply with this limit.

326 IAC 8-1-6 (General Reduction Requirements For New Facility)

The PTE VOC are limited to less than 25 tons per year, therefore 326 IAC 8-1-6 is not applicable. This limit will also make 326 IAC 2-2 (PSD) not applicable.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time

The compliance monitoring requirements applicable to this modification are as follows:

- (a) Visible emission notations of the silo's integrated bin vent and the cartridge collector stack exhaust shall be performed once per shift during normal daylight operations when exhausting to the atmosphere during loading. A trained employee shall record whether emissions are normal or abnormal.
- (b) An inspection shall be performed each calendar quarter on the cartridge filter. All defective filters shall be replaced.
- (c) In the event that filter failure of the cartridge filter has been observed, the failed unit and the associated process will be shut down immediately until the failed unit has been repaired or replaced. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No.085-14027-00003.

Company Name: The Dalton Foundries, Inc.
 Plant Location: 19 E. Jefferson Street, Warsaw, Indiana 46580
 County: Kosciusko
 Permit Reviewer: Nisha Sizemore
 Title V mod #: 085-14027
 Plt. ID #: 085-00003

* * Process Emissions * *

Year	Cupola	Molds (iron)	Sand	Processing (Finishing)			
1997	171,438	170,674	1,008,331	101,544			
1998	174,674	174,699	1,015,622	103,272			
1999	171,846	171,845	963,887	101,541			
2000	165,464	164,724	926,330	97,914			
2001	138,792	138,017	788,105	68,215			
avg 97/98	173,056	172,687	1,011,977	102,408			
avg per hour	19.76	19.71	115.52	11.69			
Amount charged: 1.06 x amount melt			20.94				
Amount of waste sand: 10% of sand			11.55				
Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of control	Control Efficiency (%)
Scrap and Charge	20.94	PM	0.60	55.03	55.03		
Handling		PM-10	0.36	33.02	33.02		
SCC# 3-04-003-15		SO2	0.00	0.00	0.00		
EF for PM from AP-42 Ch. 12.10		NOx	0.00	0.00	0.00		
EF for PM10 from Fire		VOC	0.00	0.00	0.00		
EF for Lead from Speciate		CO	0.00	0.00	0.00		
		chromium	0.00	0.02	0.02		
		cobalt	0.00	0.00	0.00		
		nickel	0.00	0.04	0.04		
		arsenic	0.00	0.01	0.01		
		cadmium	0.00	0.00	0.00		
		selenium	0.00	0.00	0.00		
		Lead	0.00	0.21	0.21		

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of control	Control Efficiency (%)
Cupola	19.76	PM	13.8	1194.09	71.05	scrubber	94.05%
		PM-10	12.4	1072.95	63.84	scrubber	94.05%
		SO2	1.25	108.16	108.16		
EPA SCC# 3-04-003-01		NOx	0.1	8.65	8.65		
		VOC	0.18	15.58	0.78	afterburner	95.00%
		CO	145	12546.56	627.33	afterburner	95.00%
EF for PM from AP-42 Ch. 12.10		chromium	0.00718	0.62	0.04	scrubber	94.05%
EF for PM10 from Fire		cobalt	0.00055	0.05	0.00	scrubber	94.05%
EF for SO2 from Fire		nickel	0.00483	0.42	0.02	scrubber	94.05%
EF for NOx from Fire		arsenic	0.00179	0.15	0.01	scrubber	94.05%
EF for VOC from Fire		cadmium	0.00000	0.00	0.00	scrubber	94.05%
EF for CO from Fire		selenium	0.00028	0.02	0.00	scrubber	94.05%
EF for LEAD from Speciate		Lead	0.03174	2.75	0.16	scrubber	94.05%
		phenol	0.01152	1.00	0.05	afterburner	95.00%
		benzene	0.06246	5.40	0.27	afterburner	95.00%
		formaldehyde	0.00126	0.11	0.01	afterburner	95.00%
		xylene	0.0216	1.87	0.09	afterburner	95.00%
		toluene	0.02538	2.20	0.11	afterburner	95.00%

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of control	Control Efficiency (%)
Pouring/Casting	19.76	PM	0.1176	10.18	10.18		
SCC# 3-04-003-18		PM-10	0.0524	4.53	4.53		
		SO2	0.02	1.73	1.73		
EFs for PM, PM10, and VOC are from site specific stack tests		NOx	0.01	0.87	0.87		
		VOC	0.163	14.08	14.08		
		CO	---	0.00	0.00		
EF for SO2 from Fire		chromium	0.00	0.14	0.14		
EF for NOx from Fire		cobalt	0.00	0.01	0.01		
EF for CO from Fire		nickel	0.00	0.24	0.24		
EF for Lead from Speciate		arsenic	0.00	0.05	0.05		
		cadmium	0.00	0.02	0.02		
		selenium	0.00	0.00	0.00		
		Lead	0.02	1.40	1.40		

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of control	Control Efficiency (%)
Castings Cooling SCC# 3-04-003-25 EFs for PM, PM10, and VOC are from site specific stack tests	19.76	PM	0.288	24.93	24.93	none	
		PM-10	0.196	16.95	16.95	none	
		SO2	0.000	0.00	0.00		
		NOx	0.000	0.00	0.00		
		VOC	0.687	59.41	59.41		
		CO	---	0.00	0.00		
		Lead	---	0.00	0.00		

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton of sand and	Ebc (ton/yr)	Eac (ton/yr)	Type of control	Control Efficiency (%)
Castings Shakeout and sand handling	19.76	PM	0.034	20.09	20.09	scrubber and baghouse	
EFs for PM, PM10, and VOC are from		PM-10	0.058	34.37	34.37		
Rate		SO2	0.00	0.00	0.00		
(tons sand/hr)		NOx	0.00	0.00	0.00		
115.52		VOC	0.115	68.14	68.14		
site specific stack tests		CO	---	0.00	0.00		
conducted on Herman 3		chromium	0.00	0.11	0.11		
in June, 2001.		cobalt	0.00	0.01	0.01		
EF for Lead from Speciate		nickel	0.00	0.19	0.19		
		arsenic	0.00	0.04	0.04		
		cadmium	0.00	0.02	0.02		
		selenium	0.00	0.00	0.00		
		Lead	0.01	1.07	1.07		

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of control	Control Efficiency (%)
Castings Cleaning and Finishing	11.69	PM	17.00	870.47	25.94	baghouse	97.02%
		PM-10	1.70	87.05	2.59	baghouse	97.02%
SCC# 3-04-003-40 EF for PM and PM10 from AP-42 Ch. 12.10		SO2	0.00	0.00	0.00		
		NOx	0.00	0.00	0.00		
		VOC	0.00	0.00	0.00		
		CO	0.00	0.00	0.00		
		chromium	0.01	0.33	0.01		
		cobalt	0.00	0.03	0.00		
		nickel	0.01	0.58	0.02		
		arsenic	0.00	0.11	0.00		
		cadmium	0.00	0.05	0.00		
		selenium	0.00	0.01	0.00		
		Lead	0.00	0.23	0.01		
		total HAPs			0.04		

Process:	Rate (tons sand/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of control	Control Efficiency (%)
Waste Sand Transport	11.55	PM	3.6	182.2	3.6	baghouse R	98.01%
EPA SCC# 3-04-003-50		PM-10	0.54	27.3	0.5		98.01%

EF for PM and PM10 from Fire

	Potential Emissions (tons/year)	Actual Emissions After Controls (tons/year)	PSD Significance Level (tons/year)	Allowable after Modification (tons/year)	Allowables from new core making process (tons/year)	Allowables to allot to rest of plant processes (tons/year)
PM	2357.63	211.54	25	236.54	1.34	234.50
PM-10	1276.89	156.55	15	171.55	0.73	170.12
SO2	109.99	109.99	40	149.99	0.04	149.85
NOx	19.12	19.12	40	59.12	7.23	42.29
VOC	157.70	142.91	40	182.91	24.44	157.97
CO	12554.66	635.43	100	735.43	6.07	721.26
chromium	1.20	0.29				
cobalt	0.09	0.02				
nickel	1.43	0.47				
arsenic	0.35	0.10				
cadmium	0.09	0.04				
selenium	0.04	0.01				
Lead	5.65	2.85	0.6	3.45	0.00	3.45
phenol	1.00	0.05				
benzene	5.40	0.27				
formaldehyde	0.11	0.01				
xylene	1.87	0.09				
toluene	2.20	0.11				
hexane	0.17	0.17				
Total HAPs	19.60	4.48				
	Allowable (tons/year)	Core room emissions increases (tons/year)	preheater emissions (tons/year)	Portion of allowable to allot to rest of plant (tons/year)		
PM	236.54	1.34	0.7	234.49		
PM-10	171.55	0.73	0.7	170.12		
SO2	149.99	0.04	0.1	149.85		
NOx	59.12	7.23	9.6	42.29		
VOC	182.91	24.49	0.5	157.92		
CO	735.43	6.07	8.1	721.26		
lead	3.45	0.00	0.00	3.45		

Company Name: The Dalton Foundries, Inc.

Plant Location: 19 E. Jefferson Street, Warsaw, Indiana 46580

Process	cupola	pouring	cooling	Total EF (lb/ton metal)	finishing (lb/ton finished)	charging (lb/ton charged)	waste sand	Total EF (lb/ton sand)	shakeout and sand handling (lb/ton metal and sand)
PM EF	0.821	0.118	0.288	1.2268	0.5066	0.600	0.072	0.072	0.034
PM10 EF	0.738	0.052	0.196	0.9861	0.05066	0.360	0.011	0.011	0.058
SO2 EF	1.250	0.020	0.000	1.27	0	0.000			0.000
NOx EF	0.100	0.010	0.000	0.11	0	0.000			0.000
VOC EF	0.009	0.163	0.687	0.8583	0	0.000			0.115
CO EFs	7.250			7.25	0	0.000			0.000
chromium EF	0.000	0.002		0.00202721		0.000			0.00002
cobalt EF	0.000	0.000		0.000162725		0.000			0.00000
nickel EF	0.000	0.003		0.003097385		0.000			0.00003
arsenic EF	0.000	0.001		0.000656505		0.000			0.00001
cadmium EF	0.000	0.000		0.00025		0.000			0.00000
selenium EF	0.000	0.000		5.666E-05		0.000			0.00000
lead EF	0.002	0.016		0.01805853	0.0045	0.002			0.00018
phenol EF	0.001			0.000576					
benzene EF	0.003			0.003123					
formaldehyde EF	0.000			6.3E-05					
xylene EF	0.001			0.00108					
toluene EF	0.001			0.001269					

Pollutant	Allowable Emission (lbs/ton melt) (tons/yr)	EF (lb/ton melt)	EF (lb/ton charge)	EF (lb/ton waste sand)	EF (lb/ton finished)	EF (lb/ton metal and sand)	Allowable Throughputs (tons melted/y)	Throughputs (tons charged/y)	Throughputs (tons sand/y)	Throughputs (tons finished/y)
PM	234.50	1.227	0.6	0.072	0.507	0.0339	191,656	203,156	1,149,937	114,994
PM10	170.12	0.986	0.36	0.011	0.051	0.058	187,919	199,194	1,127,516	112,752
SO2	149.85	1.270	0			0	235,985	250,144	1,415,911	141,591
NOx	42.29	0.110	0			0	768,874	815,007	4,613,245	461,325
VOC	157.97	0.858	0	0.000		0.115	189,943	201,340	1,139,660	113,966
CO	721.26	7.250	0			0	198,968	210,906	1,193,806	119,381
lead	3.45	0.018	0.0023			0.000184184	316,391	335,374	1,898,344	189,834

metal finished is 60% of amount of metal melted

sand/metal ratio between 5.7 and 6.5, avg about 6

sand to metal ratio = 6

charge to melt ratio 1.06

waste sand to sand 0.1

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of contrc Control Efficiency (%)
Scrap and Charge	22.74	PM	0.60	59.76	59.76	
Handling		PM-10	0.36	35.85	35.85	
SCC# 3-04-003-15		SO2	0.00	0.00	0.00	
EF for PM from AP-42 Ch. 12.10		NOx	0.00	0.00	0.00	
EF for PM10 from Fire		VOC	0.00	0.00	0.00	
EF for Lead from Speciate		CO	0.00	0.00	0.00	
		chromium	0.00	0.02	0.02	
		cobalt	0.00	0.00	0.00	
		nickel	0.00	0.04	0.04	
		arsenic	0.00	0.01	0.01	
		cadmium	0.00	0.00	0.00	
		selenium	0.00	0.00	0.00	
		Lead	0.00	0.23	0.23	

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of contr	Control Efficiency (%)
Cupola	21.45	PM	13.8	1296.64	77.15	scrubber	94.05%
		PM-10	12.4	1165.10	69.32	scrubber	94.05%
EPA SCC# 3-04-003-01		SO2	1.25	117.45	117.45		
EF for PM from AP-42 Ch. 12.10		NOx	0.1	9.40	9.40		
EF for PM10 from Fire		VOC	0.18	16.91	0.85	afterburner	95.00%
EF for SO2 from Fire		CO	145	13624.15	681.21	afterburner	95.00%
EF for NOx from Fire		chromium	0.00718	0.67	0.04	scrubber	94.05%
EF for VOC from Fire		cobalt	0.00055	0.05	0.00	scrubber	94.05%
EF for CO from Fire		nickel	0.00483	0.45	0.03	scrubber	94.05%
EF for LEAD from Speciate		arsenic	0.00179	0.17	0.01	scrubber	94.05%
		cadmium	0	0.00	0.00	scrubber	94.05%
		selenium	0.00028	0.03	0.00	scrubber	94.05%
		Lead	0.03174	2.98	0.18	scrubber	94.05%
		phenol	0.01152	1.08	0.05	afterburner	95.00%
		benzene	0.06246	5.87	0.29	afterburner	95.00%
		formaldehyd	0.00126	0.12	0.01	afterburner	95.00%
		xylene	0.0216	2.03	0.10	afterburner	95.00%
		toluene	0.02538	2.38	0.12	afterburner	95.00%

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of contrc	Control Efficiency (%)
Pouring/Casting	21.45	PM	0.1176	11.05	11.05		
SCC# 3-04-003-18		PM-10	0.0524	4.92	4.92		
		SO2	0.0200	1.88	1.88		
		NOx	0.0100	0.94	0.94		
EFs for PM, PM10, and VOC are from site specific stack tests		VOC	0.1627	15.29	15.29		
		CO	---	0.00	0.00		
EF for SO2 from Fire		chromium	0.0016	0.15	0.15		
EF for NOx from Fire		cobalt	0.0001	0.01	0.01		
EF for CO from Fire		nickel	0.0028	0.26	0.26		
EF for Lead from Speciate		arsenic	0.0006	0.05	0.05		
		cadmium	0.0003	0.02	0.02		
		selenium	0.0000	0.00	0.00		
		Lead	0.0162	1.52	1.52		
	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of contrc	Control Efficiency (%)
Castings Cooling	21.45	PM	0.288	27.07	27.07	none	
SCC# 3-04-003-25		PM-10	0.196	18.41	18.41	none	
		SO2	0.000	0.00	0.00		
EFs for PM, PM10, and VOC are from site specific stack tests		NOx	0.000	0.00	0.00		
		VOC	0.687	64.51	64.51		
		CO	---	0.00	0.00		
		Lead	---	0.00	0.00		

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton of iron and	Ebc (ton/yr)	Eac (ton/yr)	Type of contrc	Control Efficiency (%)
Castings Shakeout	21.45	PM	0.034	22.30	22.30	scrubber	
and sand handling		PM-10	0.058	38.15	38.15	scrubber	
SCC# 3-04-003-31	Rate (tons sand/h	SO2	0.000	0.00	0.00		
		NOx	0.000	0.00	0.00		
EFs for PM, PM10,	128.71	VOC	0.115	75.64	75.64		
and VOC are from		CO	---	0.00	0.00		
site specific stack tests		chromium	0.00122	0.11	0.00	scrubber	98.51%
conducted on Herman 3		cobalt	0.0001	0.01	0.00	scrubber	98.51%
in June, 2001.		nickel	0.00214	0.20	0.00	scrubber	98.51%
EF for Lead from Speciate		arsenic	0.00042	0.04	0.00	scrubber	98.51%
		cadmium	0.00019	0.02	0.00	scrubber	98.51%
		selenium	3E-05	0.00	0.00	scrubber	98.51%
		Lead	0.01232	1.16	0.02	scrubber	98.51%

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of contr	Control Efficiency (%)
Castings Cleaning and Finishing	12.87	PM	17.00	958.39	28.56	baghouse	97.02%
		PM-10	1.7	95.84	2.86	baghouse	97.02%
SCC# 3-04-003-40 AP-42 Ch. 12.10		SO2	0.00	0.00	0.00		
		NOx	0.00	0.00	0.00		
		VOC	0.00	0.00	0.00		
		CO	0.00	0.00	0.00		
		chromium	0.01	0.36	0.01	baghouse	97.02%
		cobalt	0.00	0.03	0.00	baghouse	97.02%
		nickel	0.01	0.64	0.02	baghouse	97.02%
		arsenic	0.00	0.12	0.00	baghouse	97.02%
		cadmium	0.00	0.06	0.00	baghouse	97.02%
		selenium	0.00	0.01	0.00	baghouse	97.02%
		Lead	0.00450	0.25	0.01	baghouse	97.02%
		total HAPs			0.04		

Process:	Rate (tons sand/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of contr	Control Efficiency (%)
Waste Sand Transport	12.87	PM	3.60	203.0	4.0	baghouse R	98.01%
EPA SCC# 3-04-003-50 EF for PM and PM10 from Fire		PM-10	0.54	30.4	0.6		98.01%

	Potential Em (tons/year)	Limited Emis (tons/year)	Allowable Emissions (tons/yr)
PM	2578.16	229.92	234.50
PM-10	1388.71	170.12	170.12
SO2	119.33	119.33	149.85
NOx	10.34	10.34	42.29
VOC	172.35	156.28	157.97
CO	13624.15	681.21	721.26
chromium	1.30	0.20	
cobalt	0.10	0.02	
nickel	1.56	0.31	
arsenic	0.38	0.07	
cadmium	0.10	0.03	
selenium	0.04	0.01	
Lead	6.14	1.95	3.45
phenol	1.08	0.05	
benzene	5.87	0.29	
formaldehyde	0.12	0.01	
xylene	2.03	0.10	
toluene	2.38	0.12	
hexane	0.17	0.17	
Total HAPs	21.29	3.33	

Methodology:

Ef = Emission factor

Ebc = Potential Emissions before controls = Rate (units/hr) x Ef(lbs/unit) x 8760 hrs/yr / 2000 lbs/hr

Eac = Potential Emissions after controls = (1-efficiency/100) x Ebc

1 lb = 2000 tons

Company Name: The Dalton Foundries, Inc.
 Plant Location: 19 E. Jefferson Street, Warsaw, Indiana 46580
 County: Kosciusko
 Permit Reviewer: Nisha Sizemore
 Title V mod #: 085-14027
 Plt. ID #: 085-00003

The Herman 3 shakeout and sand handling systems were stack tested for PM, PM10, and VOC emissions in June 2001.
 Stack Test results

Emission Point	Test Run	PM (lb/hr)	PM10 (lb/hr)	VOC (lb/hr)
Scrubber D	1	0.982	2.965	0.951
	2	1.1492	1.563	1.244
	3	0.7667	0.8664	1.312
Scrubber E	1	1.2965	2.466	8.11
	2	1.659	5.011	11.19
	3	1.5326		6.69
Baghouse W	1	2.1303	0.93	2.76
	2	1.3401		3.04
	3	0.5414		3.62
pouring	1		0.77	1.85
	2		1.42	4.25
	3			4.19
cooling	1	7.2045		4.79
	2	6.4181		5.26
	3	4.4753	3.94	31.97

H3 molding line throughputs during stack test

Emission Material	Run 1	Run 2	Run 3	Average
Scrubber I metal	21.85		22.57	22.22
mold sand	84.27		87.86	86.5
core sand	2.06		2.15	2.11
Total sand	86.33		90.01	88.61
Total meta	108.18		112.58	110.83
Scrubber I metal	21.99		22.78	23.5
mold sand	85.61		88.67	91.49
core sand	2.09		2.17	2.23
Total sand	87.7		90.84	93.72
Total meta	109.69		113.62	117.22
Baghouse metal	22.5		21.74	23.29
mold sand	87.6		84.63	90.45

	core sand	2.14	2.07	2.21	2.14
	Total sand	89.74	86.7	92.66	89.7
	Total meta	112.24	108.44	115.95	112.21
pouring	metal	19.53	21.74	21.17	20.81
	mold sand	76.04	84.63	82.43	81.03
	core sand	1.88	2.07	2.01	1.99
	Total sand	77.92	86.7	84.44	83.02
cooling	metal	19.94	22.89	20.11	20.98
	mold sand	77.63	89.11	84.23	83.66
	core sand	1.9	2.18	1.89	1.99
	Total sand	79.53	91.29	86.12	85.65

Emission Point	Test Run	PM (lb/ton)	PM10 (lb/t	VOC (lb/ton)
Scrubber D	1	0.009	0.027	0.009
	2	0.01	0.014	0.011
	3	0.007	0.008	0.012
	Avg	0.0087	0.0164	0.0106
Scrubber E	1	0.012	0.022	0.074
	2	0.015	0.044	0.098
	3	0.013		0.057
	Avg	0.0132	0.0333	0.0765
Baghouse W	1	0.019	0.008	0.025
	2	0.012		0.028
	3	0.005		0.031
	Avg	0.012	0.0083	0.0279
pouring	1		0.039	0.095
	2		0.065	0.195
	3			0.198
	Avg	0.1176	0.0524	0.1627
cooling	1	0.361		0.24
	2	0.28		0.23
	3	0.223	0.196	1.59
	Avg	0.2881	0.1959	0.6866

Notes: Emission factors for scrubbers and baghouse are in pounds per ton of sand and metal. Emission factors for pouring and cooling are in pounds per ton of metal.

shakeout and fluidized bed portion of sand handling

Note: PM emissions from pouring are from a previous stack test.

Amended Appendix A: Emission Calculations

Page 17 of 18

Company Name: The Dalton Foundries, Inc.
 Plant Location: 19 E. Jefferson Street, Warsaw, Indiana 46580
 County: Kosciusko
 Permit Reviewer: Nisha Sizemore
 Permit Mod. 085-14027-00003

Emission Unit	Maximum Capacity (Tons/Hour)	Limited Capacity (Tons/Year)	Emission Factor	Emission Factor (lb/ton)	Potential Emissions						
					PM Tons/Yr	PM10 Tons/Yr	SOx Tons/Yr	NOx Tons/Yr	VOC Tons/Yr	Limited VOC Tons/Yr	CO Tons/Yr
Sand Handling for Hot Box Mixer	18.000		PM	3.6000	1.206	0.181	0.000	0.000	0.000	0.000	0.000
99.875 % Bin Vent Efficiency & 99.7 % Cartridge Collector			PM10	0.5400							
Hot Box Omco Mixer #9	18.000	22,670	VOC		0.000	0.000	0.000	0.000	167.259	24.047	0.000
Resin & Catalyst				1.6609							
Release Agent				0.0300							
Core Wash			2.1215	0.4100							
Core Box Cleaner				0.0206							
Installed in 2001											
This mixer supplies sand/resin mixture to hot box core machines #8 and #9 & #10.											
Natural Gas Core Box Burners	4.5		PM	1.9000	0.037	0.150	0.012	1.971	0.108	0.108	1.656
3 Burners Total @ 1.5 mmBTU/hr each	mmBTU/hr		PM10	7.6000							
Installed 2001			SOx	0.6000							
			NOx	100.0000							
			VOC	5.5000							
			CO	84.0000							
Natural Gas Core Oven #1	4.0		PM	1.9000	0.033	0.133	0.011	1.752	0.096	0.096	1.472
Installed 2001	mmBTU/hr		PM10	7.6000							
			SOx	0.6000							
			NOx	100.0000							
			VOC	5.5000							
			CO	84.0000							
Natural Gas Core Oven #2	4.0		PM	1.9000	0.033	0.133	0.011	1.752	0.096	0.096	1.472
Installed 2001	mmBTU/hr		PM10	7.6000							
			SOx	0.6000							
			NOx	100.0000							
			VOC	5.5000							
			CO	84.0000							
P.U. Natural Gas Core Ovens #8 & #9	4.0		PM	1.9000	0.033	0.133	0.011	1.752	0.096	0.096	1.472
Installed 2001	mmBTU/hr		PM10	7.6000							
			SOx	0.6000							
			NOx	100.0000							
			VOC	5.5000							
			CO	84.0000							
Total Emissions From Modification					1.344	0.730	0.043	7.227	167.657	24.445	6.071

Hot Box Sand to Resin Calculation

Maximum Amount of Sand = 22,670 tons/year
Quantity of Resin = (Maximum Amount of Sand)*(Resin to Sand Ratio)/(Density of Resin)*(2,000 lbs/ton)

Quantity of Resin =	72,783.76 gallons/year
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Hot Box Sand to Catalyst Calculation

Maximum Amount of Sand = 22,670 tons/year
Quantity of Catalyst = (Maximum Amount of Sand)*(Resin to Sand Ratio)*(Catalyst to Resin Ratio)/(Density of Catalyst)*(2,000 lbs/ton)

Quantity of Catalyst =	14,716.51 gallons/year
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Hot Box Sand to Core Wash Calculation

Maximum Amount of Sand = 22,670 tons/year
Quantity of Core Wash = (Maximum Amount of Sand)*(Core Wash to Sand Ratio)/(Density of Core Wash)

Quantity of Core Wash =	39,207.57 gallons/year
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Hot Box Sand to Release Agent Calculation

Maximum Amount of Sand = 22,670 tons/year
Quantity of Release Agent = (Maximum Amount of Sand)*(Release Agent to Sand Ratio)/(Density of Release Agent)*(2,000 lbs/ton)

Quantity of Release Agent =	6,828.31 gallons/year
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Amended Appendix A
Dalton Corporation
Warsaw Manufacturing Facility
Hotbox Material Usage Calculations